WBS No: 1AAG Activity ID: 1A3515AE21

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect

Baseline Devl

WBS Filter 1AAG
Activity Filter *

Starts In FY

WBS No: 1AAG	Title: Wet Residues											
Activity ID: 1A3	Description: Rm 3515 Mods - WIPP Equip	pment Test	ing					Cost Risk	2 Schedule R	Pisk 4		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
01	0.15	each	EE	765	114	3.738	0	0	3.738	1.824	5.562	
	Tota	al for Activi	tv 1A3515AE	= 21:		114	3.738	0	0	3.738	1.824	5.562

Line Item 01 - Engr, Equip Testing, Project Support

BOE

Estimators Experience - Fluorides Project Manager Experience Item Desc -

- 1. Design and Engineering Support. This activity provides for the Engineering that will be required to develop the overall design layout, the design of specific work orders, oversight of maintenance activities, system testing, construction support, operational support, address the overall project engineering, and provide input to the administrative activities. 70% will be done in FY99, 29% in FY00 and 1% in FY01. This will require Mechanical Engineering (S160, E070) for ½ FTE, Electrical Engineering (S160, E040) for ½ FTE, Instrumentation Engineering (S160, E130) for 1/8 FTE, Industrial (operations) Engineer (S160, E060) for 1/8 FTE, Structural Engineering (S160, E130) for 1/8 FTE, Crit. Engineering (S121,E080) for 1/4 FTE, and Rad Engineering (S158, E125) for 1/3 FTE.
- 2. Room 3515 equipment testing: This activity accounts for the testing of the new equipment and systems installed into room 3515. It requires Engineering support as well as operator support to run the equipment. The Engineering support for equipment testing is addressed elsewhere. The operations and craft support for this activity will require Operators (S167, T080) for 160 hrs and Electricians (S167, C020) for 120 hrs, Forman (S163, M010) 80 hrs.
- 3. Project Support: The provides for non-Engineering support for the project to address several miscellaneous activities such as training, administrative requriements and input, miscellaneous room clean-ups, etc. It will require Administrative support (S163, G040) for 60 hrs, Training Administrative support (S170, G040) for 200 hrs, H&S Support (S159, P080) for 100 hrs, (S159, P090) for 100 hrs, and (S159, E120) for 450 hrs, QA support (S131, T110) for 200 hours, Craft support for cleanup and miscellaneous activities (S163, T080) for 160 hrs, (S163, R060) for 160 hrs, and Forman support (S163, M010) for 160 hrs. Breakdown of Cost Data:

Item - ea
Units - hrs
Unit Cost - \$/hr
Unit Cost Adjustment factor - n/a
Revised Unit Cost - n/a
Basis for adjustment - n/a

Resources

S Cost Element		Skill		Department	Curve	Ouantity Units
750 STRAIGHT TIME BASE	C020	ELECTRICIANS	KA20H	371/374 Facility Mamt Steelworkers	Linear	120.00 Hours
Factors 120 hrs		_ 1				
750 STRAIGHT TIME BASE	E040	ELECTRICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	130.50 Hours
Factors 130.5 hrs		_ 1				
750 STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	263.90 Hours
Factors 263.9 hrs		_ 1				
750 STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	120.00 Hours
Factors 120 hrs		_ 1				
750 STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	130.50 Hours
Factors 130.5 hrs		1				

Activity ID: 1A3515CN11 Description: Rm 3515 Mods - WIPP IWCP Constr/Installation

ſ	Line Item	Description	Quantity	Units	BOE		Labor Hours		Materials/ Sub			Burden Cost	Total Cost
(01	Stripout, mtce, & Constru	0.15	each	Type EE	Hours/Unit 4.683	<i>Total</i> 700	<i>Total</i> 14.996	Cost 0	& Escalation 0	<i>Cost</i> 14.996	7.318	22.314
()2	Planning	0.15 each				0	0	8.196	0	8.196		8.196
Total for Activity 1A3515CN11:								14.996	8.196	0	23.192	7.318	30.510

Line Item 01 - Stripout, mtce, & Constru

BOE

Estimators Experience - Fluorides Project Manager Experience Item Desc -

03 - Repairing I/O Station #3. The required repairs to I/O Station #3 will be identified in the Engineering Study. The following resources provide for completing the repairs providing that the required repairs are not major or extensive. If significant problems are found to exist with the Station, additional resources may be needed. Operators - (S163, T080), 60 hrs, (S160, R060) 60 hrs, RCT Support (S158, T050) 160 hrs, Planners (S167, P070), 80 hrs, 2 Electricians (S167, C020) (2) for 120 hrs (total), Machinists (S167, C060), 80 hrs, Pipefitter (S167, C080) 80 hrs, Other Technicians (S167, T040) 120 hrs, and material and equipment costs of \$100,000.

Cost Risk

2 Schedule Risk

WBS No: 1AAG Activity ID: 1A3515CN11

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

WBS Filter 1AAG
Activity Filter *

Project

Baseline Devl

Starts In FY

04 - Room 3515 equipment testing: This activity accounts for the testing of the new equipment and systems installed into room 3515. It requires Engineering support as well as operator support to run the equipment. The Engineering support for equipment testing is addressed elsewhere. The operations and craft support for this activity will require Operators (S167, T080) for 160 hrs and Electricians (S167, C020) for 120 hrs, Forman (S163, M010) 80 hrs.

- 06 Miscellaneous Equipment and Work Orders: During the course of construction additional items will likely be identified that require issuing additional work orders. The following support is included to address these activities. It is assumed that only a few items with minor scope will be identified. If significant problems are identified, or if a large number of items are identified, additional resources would be required. Operator Support (S167, T080) 60 hrs, RCT support (S158, T050) 120 hrs, Carpenters (S167, C010) 60 hrs, Machinists (S167, C040) 80 hrs, Pipefitters (S167, C080) 60 hrs, Metal Workers (S167, C090) 80 hrs, Planners (S167, P070) 40 hrs, Forman (S167, M010) 40 hrs, and material and equipment costs of \$100,000.
- 07 Shielding: Additional shielding will be required to protect the operator from exposure to the material in or outside of the box. This shielding will be attached to the outside of the glove box, or fabricated into standalone shielding. The following support is based on fabrication or installation of a few shields. If a complicated shield or a significant number of shields are idenfied, additianal resources will be required. Operator Support (S167, T080) 30 hrs, (S167, R060) 30 hrs, Carpenters (S167, C010) 60 hrs, Machinists (S167, C040) 120 hrs, Metal Workers (S167, C090) 10 hrs, RCT Support (S158, T050) 40 hrs, Planners (S167, P070) 40 hrs, Forman (S167, M010) 30 hrs, equipment and material costs \$5,000.
- 10.5 Installation of Equipment: This activity allows for the instalation of the new equipment into the glove box once the clean-out and preparation work is complete. The Project Manager has estimated that K-H Construction can perform the work for \$148,500.
- 11 Modify Criticality Drain. The existing crit. drain in GB32 does not conform to the existing plant standard. Because of this, the drain has been modified before the box becomes operational. All that remains is to close out the IWCP package. Engineering (S160, E070) 30 hours, Planner (S167, P070) 40 hrs
- 12 Fabricate metal table, transfer cart, shielding cabinet, transition piece, cooling box, scrubber connection, pans, and containers. These items are necessary in order to allow for GB operations. Pipe fitters (2) (S167, C080) 160 hrs (total), Metal Workers (2) (S167, C090) 280 hrs (total), Machinists (2) (S167, C040) 440 hrs (total), Planner (S167, P070), 40 hrs, Forman (S167, M010) 80 hrs, equipment and material cost of \$5,000.
- 15 Waste Managment Support: The waste that will be generated from the clean-out work and room modifications will require support to address paperwork, material movement, tracking, and disposal. Forman (S167, M010) 160 hrs, Operators (S167, R060) 240 hrs, Environmental Engineer (S159, E050) 160 hrs, H&S support (S159, P090) 160 hrs, Waste disposal costs (assume 30 drums @ 5,000/drum) = \$150,000.
- 16 HEPA tie-ins and balancing. Tie-in and balancing of the HVAC system will be required. Filter techs (S169, R080) 24 hrs, RCT (S158, T050) 10 hrs, Supervisors (S169, M010) 10 hrs.

Breakdown of Cost Data:
Item - ea
Units - hrs
Unit Cost - \$/hr
Unit Cost - \$/hr
Unit Cost Adjustment factor - n/a
Revised Unit Cost - n/a
Basis for adjustment - n/a

Resources

Cost Element	Skill	Department	Curve	Quantity Units
750 STRAIGHT TIME BASE	C010 CARPENTERS	KA20H 371/374 Facility Mgmt Steelworkers	Linear	1,235.00 Hours
Factors 1235 hrs				
750 STRAIGHT TIME BASE	C020 ELECTRICIANS	KA20H 371/374 Facility Mgmt Steelworkers	Linear	18.00 Hours
Factors 18 hrs				
750 STRAIGHT TIME BASE	C040 MAINTENANCE MACHINIST (in	ncl Exp KA20H 371/374 Facility Mgmt Steelworkers	Linear	1,510.00 Hours
Factors 1510 hrs				
750 STRAIGHT TIME BASE	C080 PLUMBERS AND PIPEFITTERS	S KA20H 371/374 Facility Mgmt Steelworkers	Linear	699.00 Hours
Factors 699 hrs				
750 STRAIGHT TIME BASE	C090 STRUCTURAL AND METAL WO	ORKE KA20H 371/374 Facility Mgmt Steelworkers	Linear	826.00 Hours
Factors 826 hrs				
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	S SA01S SSOC 371 Closure Project	Linear	32.00 Hours
Factors 32 hrs				
750 STRAIGHT TIME BASE	E070 MECHANICAL ENGINEERS	SA01S SSOC 371 Closure Proiect	Linear	10.00 Hours
Factors 10 hrs				
750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNER	RS AN SA01S SSOC 371 Closure Project	Linear	353.00 Hours
Factors 353 hrs				

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Project Baseline Devl **Rocky Flats Closure Project** WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter

Line Item 02 - Planning

1AAG

1A3515CN11

BOE

WBS No:

Activity ID:

Based on Combustibles FY98 requirements:

- 1. 1 Full-time first-line supervisor
 2. 1 Full-time subcontracted engineer for Techinical Project Management
- 3. 1/4 FTE Rad Engineer for general project support
- 4. 2 ea of 1/3 FTE subcontracted technical engineers
- 5. 1/4 FTE subcontracted engineer for Techinical Project Management

Resources

es			Cost Element			Skill			Department		Curve	Ouantity	Units
	A57	LATA		P070	COST ES	TIMATORS PLANNERS AN	SA01S	SSOC 3	71 Closure Proiect		Linear	51.840.00	Dollars
	Factors	1	Planner		60	hours/mo		12	mo/vear	72	\$/hour		
	A58	ASI		0000	NONE		SA01S	SSOC 3	71 Closure Proiect		Linear	3.000.00	Dollars

Factors 3000 Dollars/Year

Activity ID: 1AW	Description: FY00 Wet Combustibles B					Cost Risk	2 Schedule B	risk 4				
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
1AW2011000-02	BNG Prep: Initial Engineering	0.88	each	HC	200	177	7.657	8.857	0	16.514	3.737	20.251
1AW2011010-01	SWB Enar: Enaineerina Support	0.31	ea	HC	0	0	0	190.763	0	190.763	0	190.763
1AW2011020-01	RTR BNG Drums: RTR Support (102 drums)	0.52	ea	HC	1.200	626	12.723	0	0	12.723	6.209	18.932
1AW2011120-21	HSGS: Receive & Store @ Storage Fac	68.13	ea	HC	0	14	376	0	0	376	184	560
1AW2011120-22	HSGS: Stage & Transfer to HSGS	68.13	ea	HC	0	20	564	0	0	564	275	840
1AW2011120-23	HSGS: Receive & Stage for HSGS	68.13	ea	HC	0	20	564	0	0	564	275	840
1AW2011120-24	HSGS: Support	68.13	ea	HC	1	68	2.714	0	0	2.714	1.325	4.039
1AW2011210-01	GGT BNG: Operate GGT (58 drums)	17.70	con	HC	11	200	4.068	0	0	4.068	1.985	6.054
1AW2011320-14	NDA BNG: Operate NDA - 1st Shift	0.09	ea	HC	0	0	0	0	0	0	0	0
	Т	otal for Activ	ity 1AW20110	00:		1.126	28.668	199.620	0	228.287	13.990	242.277

Line Item 1AW2011000-02 - BNG Prep: Initial Engineering

BOE

Historical Data Source - Actual costs of Wet Combustibles Gas Generation Testing Engineering

Item Desc - Estimate of all Box N Go operations, design of standard waste box spider, criticality and nuclear safety designs

Breakdown of Historical Data:

Item - Gas Generation Testing engineering

Units -

Unit Cost -

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

Resources

es			Cost Element			Skill			Department	Curve	Quantity	Units
	750	STRAIGI	HT TIME BASE	E080	NUCLEA	R (CRITICALITY) ENGINEER	SA01S	SSOC 37	1 Closure Project	Linear	200.00	Hours
	Factors	1	Crit. Engineer		200	hours						
	A57	LATA		E130	OTHER E	NGINEERS	SA01S	SSOC 37	1 Closure Project	Linear	10,010.00	Dollars
	Factors	1	Proj. Engineer		130	hours		77	\$/hour			

Line Item 1AW2011010-01 - SWB Engr: Engineering Support

BOE

Engineering support to Gas Generation Testing Operations for Standard Waste Boxes

Subject matter expert on Gas Gen. Testing apparatus

Project administrator manages movement of drums through RTR, HSGS, and Gas Generation Testing, coordinates efforts between B371, B776 and analytical services.

Resources

ces		Cost Element		Skill			Department	Curve	Quantity Units
Į	A57 LATA		E130 OTHER	ENGINEERS	SA01S	SSOC 3	71 Closure Proiect	Linear	616.000.00 Dollars
	Factors 4	Engineers	2000	hours/vear		77	\$/hour		

Line Item 1AW2011020-01 - RTR BNG Drums: RTR Support (102 drums)

BOE

Historical Data Source - Wet Combustibles FY99 Operations Item Desc - Real Time Radiography

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WBS No: 1AAG Baseline Devl Proiect **Rocky Flats Closure Project** Activity ID: 1AW2011000 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter

Breakdown of Historical Data: Item -Units -Unit Cost -NMH&C crew X-raying drums 1200.00 2 fte NMH&C foreman supervising X-ray 600.00 1 fte RTR machine rental or SRS use 240000.00 contract machine ops Unit Cost Adjustment factor -

Resource

rces		Cost Element		Skill	Department	Curve	Ouantity	Units
[750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	1.200.00	Hours

Line Item 1AW2011120-21 - HSGS: Receive & Store @ Storage Fac

Revised Unit Cost -Basis for adjustment -

Factors 1200 Hours

Resources are for receiving and storing one drum at Building 991. BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.20	Hours
	Factors	0.2 hr/drum							
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
	-	0.5		6 F/04 M O DU D I 4					

Factors 2.5 hrs/drum 5/31 M.S. Dbl Bdgt

Line Item 1AW2011120-22 - HSGS: Stage & Transfer to HSGS

Resources are for staging and transportation of one drum from B991 storage to B777 for sampling. BOE

Resources Cost Element Curve Units 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP R100S RMRS Salaried Linear 0.30 Hours

Factors 0.3

Line Item 1AW2011120-23 - HSGS: Receive & Stage for HSGS

Resources are for receiving and staging one drum in B991 for sampling. Sampling and analysis costs are not included. BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	L070 N	MISSION SUP SPEC III	KF10H	Matl Steward Steel Workers	Linear	0.00 Hours
	Factors	0.2 H		0 5/31 M.S. Dbl Bdat				
	750	STRAIGHT TIME BASE	M010 F	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.30 Hours
	Factors	0.3 H						
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KF10H	Matl Steward Steel Workers	Linear	0.00 Hours
	Factors	0.35 H		0 5/31 M S Dbl Bdat				

Line Item 1AW2011120-24 - HSGS: Support

BOE

Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data: Item - HSGS Units - 1,250 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost -Basis for adjustment -Assumptions:

1,250 drums will be available for Head Space Gas Sampling

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	0.50	Hours
	Factors	0.5 Hours							
	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	0.50	Hours
	Factors	0.5 Hours							

WBS No: Baseline Devl 1AAG Project Rocky Flats Closure Project Activity ID: 1AW2011000 WBS Filter 1AAG **Baseline Cost and Basis of Estimate**

	Daseillie Cost allu Dasis di Estilliate	Activity Filter *	Starts In FY *
750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers	s Linear	0.00 Hours
Factors 2.6 Hours	0 5/31 M.S. Dbl Bdat		
750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI KF10H Matl Steward Steel Workers	Linear	0.00 Hours

Factors 1.1 Hours 5/31 M.S. Dbl Bdgt

Line Item 1AW2011210-01 - GGT BNG: Operate GGT (58 drums)

BOE

Based on FY99 historical data from gas generation testing with 15 units in B776:

To support 15 Gas Gen. Testing Canisters for 1 week

Process Specialist staging drums, 4fte x 4hrs

Process Specialist loading/undloading canisters, 4fte x 5hrs

Process Specialist sampling, 2samples x 1fte x 4hrs

Lab Tech, 2samples x 1fte x 6hrs Foreman supervising, 1fte x 10hrs

For Box N Go: 78 drums required, 1 drum per canister per week

To complete 77 drums in 20 weeks requires 4 dedicated test canisters.

Process Specialist staging drums, 4fte x 1hr x 20 weeks

Process Specialist loading/undloading canisters, 4fte x 1.33hrs x 20 weeks

Process Specialist sampling, 2samples x 1fte x 1hr x 20 weeks

Lab Tech, 2samples x 1fte x 1.6hrs x 20 weeks Foreman supervising, 1fte x 2.67hrs x 20 weeks

Resources

es			Cost Element		Skill Department		Curve	<i>Ouantity</i>	Units	
	750	STRAIGH	IT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	9.32	Hours
_	Factors	4	Process Specialists		2.33 hrs/wk					
	750	STRAIGH	IT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	2.00	Hours

Process Specialist Factors 1 samples/week hr/sample

25

hrs/wk

Line Item 1AW2011320-14 - NDA BNG: Operate NDA - 1st Shift

BOE

Benchmark Source - FY98 budget call, NDA department Benchmark Item Desc - FY99/00 NDA of Repack Drums

PS (2 SNM 2Wet)

Breakdown of Benchmark Data:

Item - NDA in FY00 386 Wet Combustibles Repack drums

Units -Unit Cost -

Factors

Unit Cost Adjustment factor - 0.15

Revised Unit Cost -

4

Basis for adjustment - 386 drums NDA in FY00, 58 Box N Go Drums NDA

Resources	Cost Element	Skill	Department	Department Curve Ouantity					
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers	Linear	0.00 Hou	rs			

52

wks/vr

Activity ID: 1AW2011010 Description: FY01 Wet Combustibles Box N Go 2 Schedule Risk Cost Risk Total Prime Total Cost Line Item Description Quantity Units BOELabor Labor Hours Labor Cost Materials/ Sub | Contingency Rurden Cost Type Hours/Unit **Total Total** Cost & Escalation Cost 1AW2011010-01 SWB Engr: Engineering Support 0.20 ea HC Λ 0 O 125.358 0 125.358 0 125.358 HC 1.200 403 82.536 90.730 3.909 1AW2011020-01 RTR BNG Drums: RTR Support (102 drums) 0.34 ea 8.194 0 94.639 1AW2011120-21 HSGS: Receive & Store @ Storage Fac 44.24 ea HC 1.425 0 9 244 0 1.670 117 1.786 HSGS: Stage & Transfer to HSGS HC 13 175 1AW2011120-22 44.24 ea 0 366 2.810 0 3.177 3.352 HSGS: Receive & Stage for HSGS HC 1AW2011120-23 44.24 ea 0 13 366 1.405 0 1.771 175 1.946 1AW2011120-24 HSGS: Support 44.24 ea HC 1 44 1.763 1.405 0 3.168 841 4.008 1AW2011320-14 NDA BNG: Operate NDA - 1st Shift HC 0.09 ea 0 0 0 0 0 0 0 0 337 1AW2011520-1 SWB to B371 Dock 0.09 each HC 30 778 0 0 778 371 1.149 HC 282 1AW2011520-2 Receive SWB at B371 Dock 0.09 each 25 638 0 0 638 304 943 95.56 drums 1AW2011520-3 Deliver Drums to B371 Dock HC 8 764 15.610 0 15.610 7.446 23.057 1AW2011520-4 Load Drums into SWBs 95.56 drums HC 14 1.290 28.746 0 0 28.746 13.712 42.458 SWB Materials VQ 286.675 1AW2011520-5 95.56 drums 0 0 0 0 286.675 0 286.675 1AW2011620-1 Ship Packed SWB to B664 or B440 0.19 each HC 110 21 605 0 0 605 289 894 0.19 each HC 55 11 0 0 1AW2011620-2 Receive SWB at B664 or B440 296 296 141 437

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5/31 M S Dbl Bdat

WBS No: 1AAG Baseline Devl Project **Rocky Flats Closure Project** 1AAG Activity ID: 1AW2011010 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY SYS Contingency And Escalation 1.00 ea 31.376 31.376 31.376 Total for Activity 1AW2011010: 2.624 57.608 501.616 31.376 590.599 27.479 618.079 Line Item 1AW2011010-01 - SWB Engr: Engineering Support Engineering support to Gas Generation Testing Operations for Standard Waste Boxes BOE Subject matter expert on Gas Gen. Testing apparatus Project administrator manages movement of drums through RTR, HSGS, and Gas Generation Testing, coordinates efforts between B371, B776 and analytical services. Resources Department Curve E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project 616.000.00 Dollars A57 LATA Linear 4 Engineers 2000 hours/year 77 \$/hour Factors Line Item 1AW2011020-01 - RTR BNG Drums: RTR Support (102 drums) BOE Historical Data Source - Wet Combustibles FY99 Operations Item Desc - Real Time Radiography Breakdown of Historical Data: Item -Units -Unit Cost -NMH&C crew X-raying drums 1200.00 2 fte NMH&C foreman supervising X-ray 600.00 1 fte RTR machine rental or SRS use 240000.00 contract machine ops Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -Units Resources Cost Element Skill Curve **Quantity** Department 750 STRAIGHT TIME BASE R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 1,200.00 Hours Linear 1200 Hours A5H SUBCONTRACTED SRVS 0000 NONE SA01S SSOC 371 Closure Project Linear 245,479.20 Dollars 1.02283 -- FY00 Escalation --Factors 240000 Dollars Line Item 1AW2011120-21 - HSGS: Receive & Store @ Storage Fac Resources are for receiving and storing one drum at Building 991. BOE Resources Cost Element Skill Department Curve Units 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP R100S RMRS Salaried 0.20 Hours Linear 0.2 hr/drum CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers 750 STRAIGHT TIME BASE Linear 0.00 Hours 2.5 hrs/drum 5/31 M.S. Dbl Bdat MISSION SUP SPEC III KF10H Matl Steward Steel Workers 0.00 Hours 751 OVERTIME BASE & PRE Linear Factors 0.2 hr/drum 0 5/31 M.S. Dbl Bdat A5H SUBCONTRACTED SRVS 0000 NONE R100S RMRS Salaried 32.22 Dollars Linear 1.02283 -- FY00 Escalation --31.5 \$/drum Line Item 1AW2011120-22 - HSGS: Stage & Transfer to HSGS Resources are for staging and transportation of one drum from B991 storage to B777 for sampling. BOE Resources Cost Flement Units 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP R100S RMRS Salaried Linear 0.30 Hours Factors 0.3 H A5H SUBCONTRACTED SRVS 0000 NONE R100S RMRS Salaried 63.53 Dollars Linear 1.02283 -- FY00 Escalation --D Factors 62 11 Line Item 1AW2011120-23 - HSGS: Receive & Stage for HSGS Resources are for receiving and staging one drum in B991 for sampling. Sampling and analysis costs are not included. BOE Cost Element Quantity Resources Department Curve

WBS No: Activity ID:	1AAG 1AW2011010		Closure Proiect	Proiect WBS Filter		
Activity ID.	14002011010	Baseline Cost a	ind Basis of Estimate	Activity Filter	1AAG *	Starts In FY *
	750 STRAIGHT TIME BASE	L070 MISSION SUP SPEC III	KF10H Matl Steward Steel Workers		Linear	0.00 Hours
	Factors 0.2 H	0 5/31 M.S. Dbl Bdat				
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried		Linear	0.30 Hours
	Factors 0.3 H					
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers		Linear	0.00 Hours
	Factors 0.35 H	0 5/31 M.S. Dbl Bdat			1	
	751 OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers		Linear	0.00 Hours
	Factors 0.105 h	0 5/31 M.S. Dbl Bdat	D. 1000 D. 100 O. 1 . 1 . 1			04 =0 5 "
	A5H SUBCONTRACTED SRVS Factors 31.05 D	0000 NONE	R100S RMRS Salaried		Linear	31.76 Dollars
l inc Itom 1AM	V2011120-24 - HSGS: Support	1.02283 FY00 Escalation				
	Estimators Experience - Scott Anders	son. Waste & Remediation Operations				
BOE	Experience Item Desc - FY 1999 TRU W					
	Breakdown of Cost Data:					
	Item - HSGS Units - 1,250 drums					
	Unit Cost - See BOE Backup					
	Unit Cost Adjustment factor - 1.0					
	Revised Unit Cost -					
	Basis for adjustment -					
	Assumptions:					
	1,250 drums will be available for He	ead Space Gas Sampling				
Resources	Cost Element	Skill	Department		Curve	Quantity Units
Nesources	750 STRAIGHT TIME BASE	M020 MANAGERS (GRADE 69 - 72)	R100S RMRS Salaried		Linear	0.50 Hours
	Factors 0.5 Hours	I WOLO IWA WELL OF TEA	T TOO THINKS SAIGHE		- Elliodi	0.00 II 10 MI 0
	750 STRAIGHT TIME BASE	P170 OTHER ADMINISTRATIVE & PROFE	R100S RMRS Salaried		Linear	0.50 Hours
	Factors 0.5 Hours					
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers		Linear	0.00 Hours
	Factors 2.6 Hours	0 5/31 M.S. Dbl Bdat				
	750 STRAIGHT TIME BASE		KF10H Matl Steward Steel Workers		Linear	0.00 Hours
	Factors 1.1 Hours	0 5/31 M.S. Dbl Bdat				
	A5H SUBCONTRACTED SRVS	0000 NONE	R100S RMRS Salaried		Linear	31.76 Dollars
	Factors 1.02283 FY00 Escalation	31.05 Dollars				
	V2011320-14 - NDA BNG: Operate NDA - 1st Sh Benchmark Source - FY98 budget call,					
BOE	Benchmark Item Desc - FY99/00 NDA o	, NDA department of Repack Drums				
	Breakdown of Benchmark Data:					
	Item - NDA in FY00 386 Wet Combusti	ibles Repack drums				
	Units - Unit Cost -					
	Unit Cost Adjustment factor - 0.15					
	Revised Unit Cost -					
	Basis for adjustment - 386 drums NI	DA in FYUU, 58 Box N Go Drums NDA				
Resources	Cost Element	Skill	Department		Curve	Ouantity Units
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers		Linear	0.00 Hours
	Factors 4 PS (2 SNM, 2Wet)	25 hrs/wk	52 wks/yr		0 5/31 M.S. Db	l Bdat
Line Item 1AW	V2011520-1 - SWB to B371 Dock					
BOE	Each drum movement has shipping and	receiving costs.				
	Assumptions:					
	Repack Ops produces 4 daughter dru	ums and 2 secondary waste drums				
	Total of 557 drums to move from ot					
	Total of 515 drums already in B371 Drum movements within B371 are but					
	Fluorides processing drums not inc					
	2 5					

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WBS No: 1AAG Project Baseline Devl **Rocky Flats Closure Project** Activity ID: 1AW2011010 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY Cost Element Units Resources Skill Department Curve 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP R100S RMRS Salaried Linear 55.00 Hours Shippina Mar. hrs KA40H 371 Wet Combustibles Steelworkers 112.00 Hours 750 STRAIGHT TIME BASE CHEMICAL SYSTEMS OPERATOR (Linear SNM Proc. Spec 112 hours 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI KA10H 371 Complex Steelworkers Linear 27.50 Hours Factors 1 RCT 27.5 hours 751 OVERTIME BASE & PRE. L080 SECURITY GUARDS W207H Protective Force 5-Days Linear 55.00 Hours Factors 1 Security Guard 55 hours 751 OVERTIME BASE & PRE. R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers Linear 70.00 Hours 1 SNM Proc. Spec. Factors hours T050 RADIATION CONTROL TECHNOLIGI KA10H 371 Complex Steelworkers 751 OVERTIME BASE & PRE. Linear 17.00 Hours RCT 17 Factors 1 hours Line Item 1AW2011520-2 - Receive SWB at B371 Dock See Shipping BOE. BOE Resources Cost Element Units Department Curve 55.00 Hours 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP R100S RMRS Salaried Linear Factors 1 Shipping Integ. Mar. 55 hours 750 STRAIGHT TIME BASE R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers Linear 112.00 Hours Proc. Spec. hours Factors 1 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI | KA10H | 371 Complex Steelworkers 28 00 Hours Linear RCT Factors 1 hours 751 OVERTIME BASE & PRE R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 70.00 Hours Linear Factors 1 Proc. Spec. hours T050 RADIATION CONTROL TECHNOLIGI KA10H 371 Complex Steelworkers 751 OVERTIME BASE & PRE Linear 17.00 Hours Factors 1 RCT 17 hours Line Item 1AW2011520-3 - Deliver Drums to B371 Dock 1140.00 4 fte RCT for building support BOE 285.00 NMH&C foreman supervising move 1 fte NMH&C operators moving drums 2280.00 8 fte Resources Cost Element Department Units R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 6.00 Hours 750 STRAIGHT TIME BASE Linear Proc. Spec. hrs/drum RADIATION CONTROL TECHNOLIGI | KA10H | 371 Complex Steelworkers 2.00 Hours 750 STRAIGHT TIME BASE T050 Linear Factors 1 RCT 2 hrs/drum Line Item 1AW2011520-4 - Load Drums into SWBs Benchmark Source - FY99/FY00 Wet Combustibles Gas Gen. Testing Operations BOE Benchmark Item Desc - Move and load drums into Gas Generation Test Canisters Breakdown of Benchmark Data: Item - Move and load drums into Standard Waste Boxes IInits -Unit Cost -Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -Units Resources Cost Element Skill Denartment Curve 750 STRAIGHT TIME BASE P170 OTHER ADMINISTRATIVE & PROFE R100S RMRS Salaried Linear 4.50 Hours Cust. Svc. Rep 2 drums per day hours/day Factors 750 STRAIGHT TIME BASE R010 CHEMICAL SYSTEMS OPERATOR (9.00 Hours KA40H 371 Wet Combustibles Steelworkers Linear 2 2 drums per day hours/day Factors Proc. Spec. Line Item 1AW2011520-5 - SWB Materials Vendor Name -BOE Vendor Ouote -

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WBS No: Baseline Devl 1AAG Proiect **Rocky Flats Closure Project** 1AW2011010 WBS Filter 1AAG Activity ID: **Baseline Cost and Basis of Estimate** Activity Filter

Quote Received by -Item being quoted -Other Info -Availability -

Resources

s		Cost Element		Skill		Department	Curve	Quantity	Units
	A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Proiect	Linear	3.000.00	Dollars

3000 \$/SWB Factors

Line Item 1AW2011620-1 - Ship Packed SWB to B664 or B440

BOE

Each drum movement has shipping and receiving costs.

Assumptions: Repack Ops produces 4 daughter drums and 2 secondary waste drums Total of 557 drums to move from other buildigs to B371 or to B776 Total of 515 drums already in B371

Drum movements within B371 are budgeted in operations activities

Fluorides processing drums not included

Resources

es	Cost Element	Skill	Department	Curve	Ouantity Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	55.00 Hours
Fa	ctors 1 Shippina Mar.	55 hrs			
	750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI	KF10H Matl Steward Steel Workers	Linear	0.00 Hours
Fa	ctors 1 RCT	27.5 hours	0 5/31 M.S. Dbl Bdat		
	751 OVERTIME BASE & PRE.	L080 SECURITY GUARDS	W207H Protective Force 5-Davs	Linear	55.00 Hours
Fa	ctors 1 Security Guard	55 hours			
	751 OVERTIME BASE & PRE.	T050 RADIATION CONTROL TECHNOLIGI	KF10H Matl Steward Steel Workers	Linear	0.00 Hours
Fa	ctors 1 RCT	17 hours	0 5/31 M.S. Dbl Bdqt		

Line Item 1AW2011620-2 - Receive SWB at B664 or B440

See Shipping BOE. BOE

Resources

_								
es		Cost Element		Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	55.00 Hours
į.	Factors	1 Shipping Integ. Mar.		55 hours				
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KF10H	Matl Steward Steel Workers	Linear	0.00 Hours
į.	Factors	1 RCT		28 hours		0 5/31 M.S. Dbl Bdat		
L	751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KF10H	Matl Steward Steel Workers	Linear	0.00 Hours
	Factors	1 RCT		17 hours		 5/31 M.S. Dbl Bdat 		

Line Item SYS - Contingency And Escalation

BOE

Resources

ces		Cost Element		Skill		Department	Curve	Quantity Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	19.038.48 Dollars
	Factors	19038.5 Dollars						
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	12.337.05 Dollars

12337.1 Dollars

Activity ID:	1AW3206085	Description: FY00 Wet Co	mb. Project Mamnt./WIPP	Certification	Cost Risk	k
--------------	------------	--------------------------	-------------------------	---------------	-----------	---

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
1	Manage Wet Combustibles	0.33	each	HC	0	0	0	52.800	0	52.800	0	52.800
2-GB	Glovebox Operations	0.33	ea	HC	3.700	1.221	41.770	0	0	41.770	20.384	62.154
4-3515	Fluorides Proiect Management	0.33	each	HC	0	0	0	50.820	0	50.820	0	50.820
5-371	Building 371 Support	0.33	each	HC	370	122	3.463	6.600	0	10.063	1.690	11.753
6	Budget/Schedule	0.33	each	HC	2.046	675	19.219	50.630	0	69.849	9.379	79.228
8	WIPP Certification	0.33	each	HC	0	0	0	72.606	0	72.606	0	72.606
9	Tuition Reimbursement	0.33	each	HC	0	0	0	1.155	0	1.155	0	1.155
	Tot	al for Activ	ity 1AW3206	6085:		2.018	64.452	234.611	0	299.063	31.453	330.516

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1 Schedule Risk

WBS No: 1AAG 1AW3206085 Activity ID:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter

Baseline Devl 1AAG

ivity ID:	1AVV3206085	Baseline Cost and	nd Basis of Estimate	WBS Filter 1AAG Activity Filter *	Starts In FY *
e Item 1 - N	Manage Wet Combustibles				
BOE	One full-time manager and one techn	nical lead based on Combustibles FY98	requirements.		
Resources	Cost Element	Skill	Department	Curve	Quantity Units
	A57 LATA	M020 MANAGERS (GRADE 69 - 72)	SA01S SSOC 371 Closure Proiect	Linear	160.000.00 Dollars
	Factors 1 Project Manager	2000 hrs/vr	1 vr	80 \$/hour	
e Item 2-GE	B - Glovebox Operations				
BOE	1 full-time Engineer to develop WII	PP data packages and manage drum mover	ments.		
Resources	Cost Element	Skill	Department	Curve	Ouantity Units
	750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	SA01S SSOC 371 Closure Project		1.850.00 Hours
	Factors 1 FTE	1850 hrs/vr	1 vrs		
	750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	1.850.00 Hours
	Factors 1 FTE	1850 hrs/vr	1 vrs		
e Item 4-35	515 - Fluorides Project Management				
OE	Based on Combustibles FY98 requirem	nents:			
	1 Full-time subcontracted engineer	for Tochinical Droject Management			
	I Full-time subcontracted engineer	Tot reclimical Project Management			
Resources		Skill	Department	Curve	Ouantity Units
	A57 LATA	0000 NONE	SA01S SSOC 371 Closure Project	Linear	154,000.00 Dollars
	Factors 1 fte	2000 hrs/fte	77 \$/hr		
	71 - Building 371 Support				
BOE	One full-time manager and one techn	nical lead based on Combustibles FY98	requirements.		
esources	Cost Element	Skill	Department	Curve	Ouantity Units
	750 STRAIGHT TIME BASE	P030 BUYERS PROCUREMENT AND CON	SA01S SSOC 371 Closure Project		370.00 Hours
	Factors 1 Contract Tech. Rep.	1850 hours/vear	0.2 20% time		
	A57 LATA	P170 OTHER ADMINISTRATIVE & PROFE	SA01S SSOC 371 Closure Proiect	Linear	20.000.00 Dollars
	Factors 1 Training AdminRork	2000 Hours/Day	50 Dollars/Hour	0.2 20% of an I	FTE
e Item 6 - E	B <u>udget/Schedule</u>				
BOE	Based on Combustibles FY98 requirements	nents:			
	1. 1 Budget analyst for 1 fte				
	2. 1 Scheduler for 1/2 fte				
	C T	CI VI			0 1 77 1
Resources		Skill	Department	Curve	Ouantity Units
	750 STRAIGHT TIME BASE Factors 1.02283 FY00 Escalation	P070 COST ESTIMATORS PLANNERS AN	1 FTE	Linear	2.045.66 Hours
	Factors 1.02283 FY00 Escalation A57 LATA	2000 hrs/fte P070 COST ESTIMATORS PLANNERS AN		Linear	153.424.50 Dollars
	Factors 1.02283 FY00 Escalation	2000 hrs/fte	75 \$/hr	Linear	153.424.50 Dollars
160m 9 - 1/	WIPP Certification	2000 His/ite	75 5/111		
e <i>item 6 - 1</i> 30E		Combustibles Repack and SGS Can Count:	ina		
BUE	Item Desc - Manage WIPP Certificati		5		
	Breakdown of Historical Data:				
	Item - WIPP Certification				
	Units - 1 yr Unit Cost - 1.25 FTE				
	Unit Cost Adjustment factor - 1.00)			
	Revised Unit Cost - n/a				
	Basis for adjustment - n/a				
Resources	Cost Element	Skill	Department	Curve	Quantity Units
	A52 TENERA	E130 OTHER ENGINEERS	SA01S SSOC 371 Closure Project		180.018.10 Dollars
	Factors 1.02283 FY00 Escalation	1 WIPP Cert. Expert	2000 hours/vear	88 \$/hour	
	A57 LATA	E130 OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	40.000.00 Dollars

WBS No: 1AAG Activity ID: 1AW3206085

Rockv Flats Closure Proiect Baseline Cost and Basis of Estimate

Proiect Baseline Devl
WBS Filter 1AAG
Activity Filter *

Line Item 9 - T	Tuition Reimbursement													
BOE														
	1. 1 Budget analyst for 1 fte 2. 1 Scheduler for 1 fte													
Resources	Cost Element		Skill			Departs	ment		Curve	O	uantity Ui	nits		
	A5R MISC EXPENSES	P070 COST E	STIMATORS	PLANNERS AN	SA01S SS0				Linear		3.500.00 Dolla			
	Factors 3500 \$/yr Tuition Reimb							•		•				
Activity ID:	1AW3206090 Description: FY01 We	et Comb. Project Mo	mnt./WIPP (Certification				Cost Risk	1 Schedule Ri	sk 1				
Line Item	Description		Quantity	Units BOE Type		Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	& Escalation	Total Prime Cost	Burden Cost	Total Cost		
1	Manage Wet Combustibles		1.00 e		3.700	3.700	126.577	160.000		286.577	60.377	346.954		
2-GB	Glovebox Operations		1.00 e		3.700	3.700	126.577	C	0	126.577	60.377	186.954		
3-3701	Enaineerina/Tech. Support		1.00 e		0	0	0	376.401	0	376.401	0			
4-3515	Fluorides Proiect Management		1.00 e		0	0	0	160.000		160.000	0			
5-371				ach HC	370	370	10.493	42.502		52.995	5.005			
6	Budaet/Schedule		1.00 e		1.647	1.647	46.883	159.561		206.445	22.363			
8	WIPP Certification		1.00 e		0	0	0	260.018		260.018	0			
9	Tuition Reimbursement		1.00 e		0	0	0	3.500		3.500	0			
SYS	Contingency And Escalation		1.00 e		0		0	C		85.919	0			
		Tot	al for Activity	1AW3206090:		9.417	310.530	1.161.983	85.919	1.558.433	148.123	1.706.556		
	Manage Wet Combustibles	1 . 1 1	1 01-											
BOE	One full-time manager and one techn	ical lead based	a on Combi	istibles FY98	requiremen	ts.								
Resources	Cost Element		Skill			Departi	ment		Curve	O	uantity Ui	nits		
	750 STRAIGHT TIME BASE	E130 OTHER	ENGINEERS	3	SA01S SS	OC 371 Closure	Proiect		Linear		3.700.00 Hours			
	Factors 2 Technical Lead	1850	hours/vea	r	1	vear								
	A57 LATA	M020 MANAGI		E 69 - 72)	SA01S SS	OC 371 Closure	Proiect		Linear		0.000.00 Dolla	ars		
	Factors 1 Project Manager	2000	hrs/yr		1	vr			80 \$/hou	ır				
Line Item 2-GI	B - Glovebox Operations													
BOE	1 full-time Engineer to develop WIP	P data package:	s and mana	age drum move	ments.									
Resources	Cost Element		Skill			Departi	ment		Curve	Qi	uantity Un	nits		
	750 STRAIGHT TIME BASE	E130 OTHER	ENGINEERS	3	SA01S SS	OC 371 Closure	Project		Linear		1.850.00 Hou	rs		
	Factors 1 FTE	1850	hrs/vr		1	vrs								
	750 STRAIGHT TIME BASE	E130 OTHER	ENGINEERS	3	SA01S SS	OC 371 Closure	Proiect		Linear		1.850.00 Hou	rs		
	Factors 1 FTE	1850	hrs/yr		1	vrs								
Line Item 3-37	701 - Engineering/Tech. Support													
BOE	One technical engineer based on Com	bustibles FY98	requireme	ents to finis	h design in	out and sup	ervise oper	ations.						
Resources	Cost Element		Skill			Departi	ment		Curve	O	uantity Ui	nits		
	A52 TENERA	0000 NONE			SA01S SS	OC 371 Closure	Project		Linear	37	76,401.40 Dolla	ars		
	Factors 1.02283 FY00 Escalation	2	Project Le	ead	200	00 hr/yr			1 yr			·		
	92 \$/hour													
Line Item 4-35	515 - Fluorides Project Management													
BOE	Based on Combustibles FY98 requirem	ents:												
	1 Full-time subcontracted engineer for Techinical Project Management													
Resources			Skill			Departi			Curve			nits		
	A57 LATA	0000 NONE				OC 371 Closure	e Proiect		Linear	16	30.000.00 Dolla	ars		
	Factors 1 fte	2000	hrs/fte		80	\$/hr								
	Line Item 5-371 - Building 371 Support One full-time manager and one technical lead based on Combustibles FY98 requirements.													
BOE	One rull-time manager and one techn	rcar read based	ı on Combi	uscibles FY98	requiremen	LS.								
Resources	Cost Element		Skill			Departi	ment		Curve	O	uantity Ui	nits		
				_										

WBS No: 1AAG Baseline Devl Project **Rocky Flats Closure Project** 1AAG Activity ID: 1AW3206090 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE P030 BUYERS PROCUREMENT AND CON SA01S SSOC 371 Closure Project 370.00 Hours Linear Contract Tech. Rep. 1850 hours/vear 0.2 20% time Factors A52 TENERA 0000 NONE SA01S SSOC 371 Closure Project 22.502.26 Dollars Linear Factors 1.02283 -- FY00 Escalation --Admin. Asst. 2000 hours/year 0.25 Quarter time \$/hour P170 OTHER ADMINISTRATIVE & PROFE | SA01S | SSOC 371 Closure Project 20.000.00 Dollars A57 LATA Linear Factors 1 Training Admin.-Rork Hours/Day Dollars/Hour 0.2 20% of an FTE Line Item 6 - Budget/Schedule Based on Combustibles FY98 requirements: BOE 1. 1 Budget analyst for 1 fte 2. 1 Scheduler for 1/2 fte Cost Element Skill Resources Units Department 750 STRAIGHT TIME BASE COST ESTIMATORS PLANNERS AN | SA01S | SSOC 371 Closure Project Linear 1.646.76 Hours 1.02283 -- FY00 Escalation -hrs/fte 0.805 FTE 2000 A57 LATA P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project 159.561.50 Dollars Linear Factors 1.02283 -- FY00 Escalation --2000 hrs/fte 78 \$/hr Line Item 8 - WIPP Certification Historical Data Source - FY99 Wet Combustibles Repack and SGS Can Counting BOE Item Desc - Manage WIPP Certification Documentation Breakdown of Historical Data: Item - WIPP Certification Units - 1 yr Unit Cost - 1.25 FTE Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a Resources Cost Element Department Curve Ouantity Units A52 TENERA E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project Linear 180.018.10 Dollars 1.02283 -- FY00 Escalation --WIPP Cert. Expert 2000 hours/vear 88 Factors \$/hour A57 LATA OTHER ENGINEERS SA01S SSOC 371 Closure Project Linear 40.000.00 Dollars 2000 hours/vear 0.25 FTE 80 \$/hour A5H SUBCONTRACTED SRVS E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project 40.000.00 Dollars Linear Factors 2000 hours/vear 0.25 FTE 80 \$/hour Line Item 9 - Tuition Reimbursement Based on Combustibles FY98 requirements: BOE 1. 1 Budget analyst for 1 fte 2. 1 Scheduler for 1 fte Resources Cost Element Skill Department Curve **Ouantity** Units A5R MISC EXPENSES P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project 3 500 00 Dollars Linear Factors 3500 \$/vr Tuition Reimb Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Department Curve **Ouantity** Units CON CONTINGENCY 0000 NONE ZDEPT No Department 51.840.80 Dollars Linear Factors 51840.8 Dollars ESC ESCALATION ZDEPT No Department 34.078.36 Dollars 0000 NONE Linear Factors 34078.4 Dollars Activity ID: 1AW3206102 Description: FY02 Wet Comb. Project Mamnt,/WIPP Certification Cost Risk 1 Schedule Risk Line Item Description **Ouantity** Units BOELabor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost Type Hours/Unit Total Total Cost & Escalation Cost Manage Wet Combustibles 0.33 each HC 3.700 1.221 41.770 52.800 94.570 14.745 109.315

WBS No: Activity ID:	1AAG 1AW3206102				Closure Pro		Proiec WBS F		line Devl G	Star	ts In FY *	
02-GB	Glovebox Operations		0.33 ea	НС	3.700	1.221	41.770	0	0	41,770	14.745	56.51
02-0B 03-3701	Engineering/Tech. Support		0.33 each	HC	0.700	0	41.770	124.212	0	124.212	0	124.212
04-3515	Fluorides Project Management		0.33 each	HC	0	0	0	55.440	0	55.440	0	55.440
05-371	Building 371 Support		0.33 each	HC	370	122	3.463	14.026	0	17.489	1.222	18.71
06	Budget/Schedule		0.33 each	HC	2.046	675	19.219	54.005	0	73.225	6.784	80.00
08	WIPP Certification		0.33 each	HC	0	0/0	0	85.806	0	85.806	0.704	85.80
09	Tuition Reimbursement		0.33 each	HC	0	0	0	1.155	0	1.155	0	1.15
1	Manage Wet CombClose Out		0.33 each	HC	3.700	1.221	41.770	52.800	0	94.570	14.745	109.31
2-GB	Glovebox Operations-Close Out		0.33 ea	HC	1.850	611	20.885	50.820	0	71.705	7.372	79.07
5-371	Building 371 Support-Close Out		0.33 each	HC	370	122	3.463	7.426	0	10.889	1.222	12.11
6	Budget/Schedule-Close Out		0.33 each	HC	1.850	611	17.381	50.630	0	68.011	6.135	74.14
8	WIPP Certification-Close Out		0.33 each	HC	0	0	0	85.806	0	85.806	0.100	85.80
SYS	Contingency And Escalation		1.00 ea	FF	0	0	0	05.000	133.264	133.264	0	133.26
010	TOOTHINGCHOV / THE ESCALATION	Tot	al for Activity 1AW32		"	5.803	189.722	634.926	133.264	957.913	66.972	1.024.88
ine Item 01 -	Manage Wet Combustibles	100	2110171011111 1711102	.00102.		5.000	103.722	007.020	100.207	307.510	00.572	1.02-7.00
BOE	One full-time manager and one techn	ical lead based	l on Combustible	s FY98	requirements							
BOE	_	Toda roda zazoo		20 1170	requirementos:						1	
Resources	Cost Element		Skill			Departm			Curve		ntity Uni	
	750 STRAIGHT TIME BASE	E130 OTHER E	ENGINEERS		SA01S SSOC	371 Closure	Proiect		Linear	3	.700.00 Hours	S
	Factors 2 Technical Lead	1850	hours/vear		1	vear						
	A57 LATA	M020 MANAGE	RS (GRADE 69 - 72	2)	SA01S SSOC	371 Closure	Proiect		Linear	160	.000.00 Dollar	s
	Factors 1 Project Manager	2000	hrs/vr		1	vr		8	0 \$/houi	r		
ine Item 02-G	BB - Glovebox Operations											
BOE	1 full-time Engineer to develop WIP	P data packages	and manage dru	ım mover	ments.							
Resources	Cost Element		Skill			Departm	i ant		Curve	Oug	ntity Uni	ita.
Resources	750 STRAIGHT TIME BASE	E130 OTHER E			SA01S SSOC				Linear		.850.00 Hours	
	Factors 1 FTE	1850	hrs/vr		1 SAUTS 1330C	vrs	FIOIECL		Lilleai		.030.001110018	2
	750 STRAIGHT TIME BASE	E130 OTHER B			SA01S SSOC		Project		Linear	1	.850.00 Hours	
	Factors 1 FTE	1850	hrs/vr		1	vrs	FIOIECL		Lilleai		.030.001110018	2
	8701 - Engineering/Tech. Support	1050	1115/ 71		'	VIS						
BOE	One technical engineer based on Com	hustihles FV98	requirements to	n finish	n design innut	and sune	rvise onerat	ions				
BUE	one countral engineer zasea en com			, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1	una bape	IVIDO OPCIAC				1	i
Resources	Cost Element		Skill			Departm	ient		Curve	Oua	ntity Uni	its
	A52 TENERA	0000 NONE			SA01S SSOC	371 Closure	Project		Linear	376	,401.40 Dollar	'S
	Factors 1.02283 FY00 Escalation	2	Project Lead		2000	hr/yr		1	yr			
	92 \$/hour											
ine Item 04-3	515 - Fluorides Project Management											
BOE	Based on Combustibles FY98 requirem	ents:										
	1 1 - 13											
	1. 1 Full-time first-line superviso 2. 1 Full-time subcontracted engine		al Project Mana	acement								
	Z. I Full time subcontracted engine	er for recitific	ai riojece mane	agement	+							
Resources	Cost Element		Skill			Departm	ient		Curve	Oua	ntity Uni	its
	A57 LATA	0000 NONE			SA01S SSOC	371 Closure	Project		Linear	168	.000.00 Dollar	'S
	Factors 1 fte	2000	hrs/fte		84	\$/hr						
Line Item 05-3	71 - Building 371 Support											
BOE	One full-time manager and one techn	ical lead based	on Combustible	es FY98	requirements.		.	-	-	-	·	
	G . F		ci :ii			D			6	2		
Resources	Cost Element	D000 D11/550	Skill	ND OCT	04040 0000	Departm			Curve	Oua	ntity Uni	
	750 STRAIGHT TIME BASE		PROCUREMENT A	ND CON					Linear		370.00 Hours	<u> </u>
	Factors 1 Contract Tech. Rep.	1850	hours/vear		0.2	20% time		1				
	A52 TENERA	0000 NONE			SA01S SSOC				Linear		.502.26 Dollar	'S
	Factors 1.02283 FY00 Escalation	1	Admin. Asst.		2000	hours/yea	ar	0	.25 Quart	er time		
	44											

WBS No: 1AAG Project Baseline Devl **Rocky Flats Closure Project** Activity ID: 1AW3206102 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY P170 OTHER ADMINISTRATIVE & PROFE | SA01S | SSOC 371 Closure Project 20.000.00 Dollars A57 LATA Linear Factors 1 Training Admin.-Rork Hours/Day Dollars/Hour 0.2 20% of an FTE Line Item 06 - Budget/Schedule Based on Combustibles FY98 requirements: BOE 1. 1 Budget analyst for 1 fte 2. 1 Scheduler for 1/2 fte Cost Element \$L;11 Curve Units Resources Department STRAIGHT TIME BASE P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project 750 Linear 2.045.66 Hours 1.02283 -- FY00 Escalation -FTE hrs/fte A57 LATA P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project 163.652.80 Dollars Linear Factors 1.02283 -- FY00 Escalation --2000 hrs/fte \$/hr Line Item 08 - WIPP Certification Historical Data Source - FY99 Wet Combustibles Repack and SGS Can Counting BOE Item Desc - Manage WIPP Certification Documentation Breakdown of Historical Data: Item - WIPP Certification Units - 1 yr Unit Cost - 1.25 FTE Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a Cost Element Resources A52 TENERA 180.018.10 Dollars E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project Linear Factors 1.02283 -- FY00 Escalation --WIPP Cert. Expert 2000 hours/vear 88 \$/hour A57 LATA E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project Linear 40.000.00 Dollars Factors 2000 hours/vear 0.25 FTE 80 \$/hour A5H SUBCONTRACTED SRVS E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project 40.000.00 Dollars Linear Factors 2000 hours/vear 0.25 FTF 80 \$/hour Line Item 09 - Tuition Reimbursement Based on Combustibles FY98 requirements: BOE 1. 1 Budget analyst for 1 fte 2. 1 Scheduler for 1 fte Cost Element Skill Quantity Units Resources Department Curve A5R MISC EXPENSES P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project Linear 3.500.00 Dollars 3500 \$/vr Tuition Reimb Line Item 1 - Manage Wet Comb.-Close Out One full-time manager and one technical lead based on Combustibles FY98 requirements. BOE Resources Cost Element Skill Department Curve Quantity Units 750 STRAIGHT TIME BASE E130 OTHER ENGINEERS SSOC 371 Closure Project Linear 3.700.00 Hours SA01S Technical Lead 1850 hours/vear **Factors** A57 LATA M020 MANAGERS (GRADE 69 - 72) SA01S SSOC 371 Closure Project Linear 160,000,00 Dollars Factors Project Manager 2000 hrs/yr 80 \$/hour Line Item 2-GB - Glovebox Operations-Close Out full-time Engineer to develop WIPP data packages and manage drum movements. BOE **Units** Cost Element Quantity Resources Skill Department Curve OTHER ENGINEERS 750 STRAIGHT TIME BASE SA01S SSOC 371 Closure Project Linear 1.850.00 Hours FTF 1850 hrs/vr Factors vrs A57 LATA OTHER ENGINEERS SA01S SSOC 371 Closure Project Linear 154.000.00 Dollars Factors FTE 2000 hrs/yr yrs 77 \$/hour Line Item 5-371 - Building 371 Support-Close Out One full-time manager and one technical lead based on Combustibles FY98 requirements. BOE

Baseline Devl Proiect **Rocky Flats Closure Project** WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter

hours/year

		Baseline Cost an	Activity Filter	*	Starts In FY *
Resources	Cost Element	Skill	Department	Curve	Ouantity Units
	750 STRAIGHT TIME BASE	P030 BUYERS PROCUREMENT AND CON	SA01S SSOC 371 Closure Project	Linear	370.00 Hours
	Factors 1 Contract Tech. Rep.	1850 hours/vear	0.2 20% time		
	A52 TENERA	0000 NONE	SA01S SSOC 371 Closure Project	Linear	22.502.26 Dollars

2000

1.02283 -- FY00 Escalation --\$/hour

Line Item 6 - Budget/Schedule-Close Out

1AAG

1AW3206102

Based on Combustibles FY98 requirements: BOE

> 1. 1 Budget analyst for 1 fte 2. 1 Scheduler for 1/2 fte

Resources

WBS No:

Activity ID:

es		Cost Element	Skill	Department Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS AN	SA01S SSOC 371 Closure Project	Linear	1.850.00 Hours
	Factors	1850 hrs/fte				
	A 5 7	LATA	DOZO COST ESTIMATORS DI ANNIERS ANI	SAME SSOC 271 Cloques Project	Lincor	152 424 50 Dollara

P070 ICOST ESTIMATORS PLANNERS AN | SA01S | SSOC 371 Closure Project

Factors 1.02283 -- FY00 Escalation --2000 hrs/fte 75 \$/hr

Line Item 8 - WIPP Certification-Close Out

BOE

Historical Data Source - FY99 Wet Combustibles Repack and SGS Can Counting

Item Desc - Manage WIPP Certification Documentation

Breakdown of Historical Data: Item - WIPP Certification

Units - 1 yr

Unit Cost - 1.25 FTE

Unit Cost Adjustment factor - 1.00

Revised Unit Cost - n/a Basis for adjustment - n/a

Resources

es	Cost Element		Skill		Department	Curve	Quantity Units
A52	TENERA	E130 OTI	HER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	180,018.10 Dollars
Factors	1.02283 FY00 Escalation	1	WIPP Cert. Expert		2000 hours/year	88 \$/hour	
A57	LATA	E130 OTI	HER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	40,000.00 Dollars
Factors	2000 hours/year	0.	.25 FTE		80 \$/hour		
A5H	SUBCONTRACTED SRVS	E130 OTI	HER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	40,000.00 Dollars
Factors	2000 hours/year	0.	.25 FTE		80 \$/hour		

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
L	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	91.597.79	Dollars
	Factors	91597.8 Dollars							
Į	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	41.666.71	Dollars

Factors 41666.7 Dollars

Activity ID: 1AW3206235 Description: FY00 Wet Gas Generation Testing Cost Risk 2 Schedule Risk

Admin. Asst.

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
01	Operate Gas Generation Testing	10.62	con	HC	74	787	15.975	0	0	15.975	7.796	23.771
21	Receive and Store @ Storage Fac	553.00	each	HC	0	111	3.054	0	0	3.054	1.490	4.544
22	Stage & Transfer to HSGS	553.00	each	HC	0	166	4.580	0	0	4.580	2.235	6.816
23	Receive and Stage for HSGS	553.00	each	HC	1	277	6.727	0	0	6.727	3.283	10.010
24	HSGS Support	553.00	each	HC	1	553	22.032	0	0	22.032	10.751	32.783
31	RTR Support	0.29	ea	HC	1.800	526	11.953	0	0	11.953	5.833	17.786
53	Transport/Stage Support	0.35	ea	HC	279	99	2,730	0	0	2,730	1,332	4,063
	Tot	al for Activit	ty 1AW32062	235:		2,517	67,051	0	0	67,051	32,721	99,773

Line Item 01 - Operate Gas Generation Testing

Based on FY99 historical data from gas generation testing with 15 units in B776: BOE

0.25

Quarter time

WBS No: 1AAG Baseline Devl Project **Rocky Flats Closure Project** Activity ID: 1AW3206235 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter

To support 15 Gas Gen. Testing Canisters for 1 week Process Specialist staging drums, 4fte x 4hrs Process Specialist loading/undloading canisters, 4fte x 5hrs Process Specialist sampling, 2samples x 1fte x 4hrs Lab Tech, 2samples x 1fte x 6hrs Foreman supervising, 1fte x 10hrs

For 1 unit, hours per week: Process Specialist, 2.83 hours/week Lab Tech, 1.00 hour/week Foreman supervising, 0.67 hour/week

Resource

rces		Cost Element		Skill	Department	Curve	Ouantity	Units
[750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	74.08	Hours

Line Item 21 - Receive and Store @ Storage Fac

Resources are for receiving and storing one drum at Building 991. BOE

Resources

Department Units STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP R100S RMRS Salaried 750 Linear 0.20 Hours

Factors 0.2 hr/drum

74.08 hrs

Line Item 22 - Stage & Transfer to HSGS

Factors

Resources are for staging and transportation of one drum from B991 storage to B777 for sampling. BOE

Resources 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP R100S RMRS Salaried Linear 0.30 Hours

Factors 0.3 Н

Line Item 23 - Receive and Stage for HSGS

Resources are for receiving and staging one drum in B991 for sampling. Sampling and analysis costs are not included.

Resources

BOE

es	Cost Element		Skill		Department	Curve	Quantity Units
	750 STRAIGHT TIME BASE	L070	MISSION SUP SPEC III	KA40H	371 Wet Combustibles Steelworkers	Linear	0.20 Hours
F	Factors 0.2 H						
	750 STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.30 Hours
F	Factors 0.3 H						
L	750 STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KF10H	Matl Steward Steel Workers	Linear	0.00 Hours
F	Factors 0.35 H		0 5/31 M.S. Dbl Bdqt				

Line Item 24 - HSGS Support

BOE

Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data: Item - HSGS Units - 1,250 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost -Basis for adjustment -

1,250 drums will be available for Head Space Gas Sampling

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	0.50	Hours
	Factors	0.5 Hours							
	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	0.50	Hours
-	Factors	0.5 Hours							
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
	Factors	2.6 Hours		0 5/31 M.S. Dbl Bdat					

WBS No: Baseline Devl 1AAG Project **Rocky Flats Closure Project** Activity ID: 1AW3206235 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI | KF10H | Matl Steward Steel Workers 0.00 Hours Linear Factors 1.1 Hours 5/31 M.S. Dbl Bdat Line Item 31 - RTR Support NMH&C crew X-raying drums 1200.00 2 fte BOE NMH&C foreman supervising X-ray 600 00 1 fte RTR machine rental or SRS use 240000.00 contract machine ops Cost Element Resources 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project Linear 600 00 Hours 600 Hours R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers STRAIGHT TIME BASE Linear 1.200.00 Hours Factors 1200 Line Item 53 - Transport/Stage Support RCT for building support 1140.00 4 fte BOE NMH&C foreman supervising move 285.00 1 fte NMH&C operators moving drums 2280.00 8 fte Cost Element Skill **Ouantity** Units Department Curve Resources 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project Linear 279.42 Hours 0.98041 Dept. Code Change from S126S Hours Super 750 STRAIGHT TIME BASE CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers 0.00 Hours Linear Factors 1140 hrs 5/31 M.S. Dbl Bdat 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI KF10H Matl Steward Steel Workers 0.00 Hours Linear 5/31 M.S. Dbl Bdat 570 Activity ID: 1AW3206255 Description: FY00 Wet Repack Operations Cost Risk 2 Schedule Risk BOELabor Hours Labor Cost Materials/ Sub Total Prime Line Item Description **Ouantity** Units Labor Contingency Burden Cost Total Cost Type Hours/Unit Total Total Cost & Escalation Cost 0.32 ea HC 21.730 6.915 145.176 145.176 70.628 215.804 01 GB40 Operations - 1st Shift 02 GB40 Operations - 2nd Shift 0.32 ea HC 21.730 6.915 145.176 0 0 145.176 70.628 215.804 HC 215.804 03 GB1509 Operations - 1st Shift 0.32 ea 21.730 6.915 145.176 0 0 145.176 70.628 GB1509 Operations - 2nd Shift 0.32 ea HC 21.730 6.915 145.176 145.176 70.628 215.804 04 n 0 14 Operate Wet Repack NDA - 1st Shift 0.32 ea HC 634 202 6.200 Λ 0 6.200 3.016 9.217 15 Operate Wet Repack NDA - 2nd Shift HC 0.41 ea 634 257 7.891 0 0 7.891 3.839 11.731 HC 16 Waste Inspection 0.96 each 325 313 10.721 0 10.721 5.216 15.937 HC 17 Drum Crushing in B991 2.89 each 1 38 0 38 18 56 Commodities HC 18 0.96 each 0 0 n 254.894 0 254.894 0 254.894 SYS Contingency And Escalation 1.00 ea FF 0 0 7.998 7.998 0 7.998 Total for Activity 1AW3206255: 28.433 605.556 254.894 7.998 868.449 294.600 1.163.049 Line Item 01 - GB40 Operations - 1st Shift Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE 1 fte Foreman Process Specialist 10 fte Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) RCT 2 fte Cost Element Units Resources Curve STRAIGHT TIME BASE 750 M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project Linear 1.820.00 Hours Supervisor hrs/vr R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 750 STRAIGHT TIME BASE 16.290.00 Hours Linear 1810 hrs/vr Process Sps. RADIATION CONTROL TECHNOLIGI | KA10H | 371 Complex Steelworkers 750 STRAIGHT TIME BASE T050 Linear 3.620.00 Hours Factors 1810 hrs/yr **RCT** Line Item 02 - GB40 Operations - 2nd Shift Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE

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WBS No: 1AAG **Rocky Flats Closure Project** 1AW3206255 **Baseline Cost and Basis of Estimate**

750 STRAIGHT TIME BASE

Foreman

Factors 1

Baseline Devl Project WBS Filter 1AAG

Activity ID: Activity Filter Starts In FY * Foreman 1 fte Process Specialist 10 fte Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) Resources Cost Element Skill Department Curve Units 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP | SA01S | SSOC 371 Closure Project Linear 1.820.00 Hours Supervisor 750 STRAIGHT TIME BASE CHEMICAL SYSTEMS OPERATOR (| KA40H | 371 Wet Combustibles Steelworkers Linear 16.290.00 Hours Process Sps. 1810 hrs/vr Factors 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI KA10H 371 Complex Steelworkers Linear 3.620.00 Hours Factors 1810 hrs/yr Line Item 03 - GB1509 Operations - 1st Shift Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE Foreman 1 fte Process Specialist 10 fte Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) Units Resources Cost Element Skill Department Curve **Ouantity** 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP | SA01S | SSOC 371 Closure Project Linear 1.820.00 Hours 1820 hrs/yr Supervisor CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 16.290.00 Hours 750 STRAIGHT TIME BASE Linear Factors 1810 hrs/yr Process Sps. 750 STRAIGHT TIME BASE RADIATION CONTROL TECHNOLIGI KA10H 371 Complex Steelworkers 3.620.00 Hours T050 Linear Factors 1810 hrs/vr Line Item 04 - GB1509 Operations - 2nd Shift Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE Foreman 1 fte 10 fte Process Specialist Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) 2 fte Skill Units Resources Cost Element Department Curve **Ouantity** 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP | SA01S | SSOC 371 Closure Project Linear 1.820.00 Hours Supervisor 1820 hrs/vr CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 750 STRAIGHT TIME BASE Linear 16.290.00 Hours Factors 1810 hrs/vr Process Sps. 750 STRAIGHT TIME BASE RADIATION CONTROL TECHNOLIGI KA10H 371 Complex Steelworkers 3.620.00 Hours T050 Linear Factors 1810 hrs/vr Line Item 14 - Operate Wet Repack NDA - 1st Shift Process Specialist, Drum movements BOE Process Operator Foreman, Drum movements oversight NMH&C Process Specialist, Assay drums NMH&C Foreman, oversight for drum count Units Resources Cost Element Department 750 STRAIGHT TIME BASE E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project 300.00 Hours Linear Factors 300 hrs M010 FOREMEN / TEAM LEADS / GROUP | SA01S | SSOC 371 Closure Project 110.00 Hours 750 STRAIGHT TIME BASE Linear Foreman Factors 1 hrs

M010 FOREMEN / TEAM LEADS / GROUP | SA01S | SSOC 371 Closure Project

hrs

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Linear

224.00 Hours

WBS No: 1AAG Baseline Devl Project **Rocky Flats Closure Project** Activity ID: 1AW3206255 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY R010 CHEMICAL SYSTEMS OPERATOR (| KF10H | Matl Steward Steel Workers 750 STRAIGHT TIME BASE 0.00 Hours Linear Factors 2 PS hrs/wk wks/vr 0 5/31 M.S. Dbl Bdat Line Item 15 - Operate Wet Repack NDA - 2nd Shift Process Specialist, Drum movements BOE Process Operator Foreman, Drum movements oversight NMH&C Process Specialist, Assay drums NMH&C Foreman, oversight for drum count Cost Element Skill Units Resources Department Curve E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project STRAIGHT TIME BASE 750 Linear 300.00 Hours 300 hours Factors M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project 750 STRAIGHT TIME BASE Linear 110.00 Hours Foreman SA01S SSOC 371 Closure Project 750 STRAIGHT TIME BASE FOREMEN / TEAM LEADS / GROUP Linear 224.00 Hours Foreman 224 Factors 1 750 STRAIGHT TIME BASE R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers 0.00 Hours Linear Factors 2 PS hrs/wk 52 wks/vr 0 5/31 M.S. Dbl Bdgt Line Item 16 - Waste Inspection Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE 1 fte Foreman Process Specialist 10 fte Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) 2 fte Resources Cost Element Skill Department Curve **Ouantity** Units E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project 750 STRAIGHT TIME BASE Linear 325.00 Hours Factors 325 Line Item 17 - Drum Crushing in B991 Crush empty drums in B991 generated from the process line. Seven shipments totaling approximately 200 drums will take place in FY99. BOE Cost Element Units Resources Skill Department Curve 750 STRAIGHT TIME BASE P170 OTHER ADMINISTRATIVE & PROFE R100S RMRS Salaried Linear 0.50 Hours hr/ship 0.5 Mamt./Intea. 750 STRAIGHT TIME BASE CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers Linear 0.00 Hours 2 PS hrs/ship 5/31 M.S. Dbl Bdat Factors 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI Matl Steward Steel Workers 0.00 Hours KF10H Linear hrs/ship RCT 5/31 M.S. Dbl Bdat Factors Line Item 18 - Commodities Historical Data Source - Warehouse Materials Charges from 10/98 to 8/99 BOE Item Desc - Materials for Glovebox Operations Breakdown of Historical Data: Item - gloves, bags, cans, drums, safety items, special clothing, shoes, tools Units - 1s Unit Cost - \$260,424 per year per process line Unit Cost Adjustment factor -1.15 Escalation Resources Cost Element Skill Department Curve **Ouantity** Units A5C SUPPLIES 0000 NONE SA01S SSOC 371 Closure Project Linear 264.330.30 Dollars Factors 1.015 -- FY00 Escalation --260424 \$ Line Item SYS - Contingency And Escalation BOE Resources Cost Flement Skill Department Curva Unite 0000 NONE ZDEPT No Department CON CONTINGENCY Linear 4.691.32 Dollars Factors 4691.32 Dollars

Project Baseline Devl **Rocky Flats Closure Project** 1AAG WBS Filter **Baseline Cost and Basis of Estimate**

Activity Filter Starts In FY ESC ESCALATION 0000 NONE ZDEPT No Department 3.307.09 Dollars Linear

Factors 3307.09 Dollars

1AAG

1AW3206255

1	Activity ID: 1AW	Description: FY01 Wet Gas Generation T	esting						Cost Risk	2 Schedule R	
	Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/Sub	Contingency	Total Prime

Line Item	Description	Quantity	Units BO		Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Operate Gas Generation Testing	30.97	con H		4.557	92.558	77.249	0	169.807	44.150	213.957
21	Receive and Store @ Storage Fac	1.114.85	each H	0	223	6.156	35.919	0	42.076	2.937	45.012
22	Stage & Transfer to HSGS	1.114.85	each H	0	334	9.234	70.824	0	80.058	4.405	84.463
23	Receive and Stage for HSGS	1.114.85	each H	0	334	9.234	35.406	0	44.641	4.405	49.045
24	HSGS Support	1.114.85	each H	1	1.115	44.416	35.406	0	79.822	21.186	101.008
31	Real Time Radiography	0.88	ea H	1.200	1.062	21.564	217.200	0	238.764	10.286	249.051
53	Transport/Stage Support	0.88	ea H	0	0	0	0	0	0	0	0
55	A5H Plug: 6-13-00 FY00 Target Red	1.00	ea H	0	0	0	1.298.174	0	1.298.174	0	1.298.174
SYS	Contingency And Escalation	1.00	ea El	. 0	0	0	0	109.133	109.133	0	109.133
	То	tal for Activit	y 1AW3206335:		7.626	183.162	1.770.179	109.133	2.062.474	87.368	2.149.843

Line Item 01 - Operate Gas Generation Testing

BOE

WBS No:

Activity ID:

Based on FY99 historical data from gas generation testing with 15 units in B776:

To support 15 Gas Gen. Testing Canisters for 1 week

Process Specialist staging drums, 4fte x 4hrs

Process Specialist loading/undloading canisters, 4fte x 5hrs

Process Specialist sampling, 2samples x 1fte x 4hrs

Lab Tech, 2samples x 1fte x 6hrs

Foreman supervising, 1fte x 10hrs

For 1 unit, hours per week:

Process Specialist, 2.83 hours/week

Lab Tech, 1.00 hour/week

Foreman supervising, 0.67 hour/week

Resources

es		Cost Element		Skill		Department			Curve	Quantity	Units
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles	Steelworkers		Linear	147.16	Hours
	Factors	1 PS		52 wks/vr		2.83 hr/wk/canister	r				
	A5H	SUBCONTRACTED SRVS	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proi	iect		Linear	2.494.48	Dollars
	Factors	0.67 hrs/wk/capietor		1 Foroman		52 wks/vr		70	¢/hr		

1.02283 -- FY00 Escalation --

Line Item 21 - Receive and Store @ Storage Fac

BOE

Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities

Breakdown of Cost Data:

Item - HSGS

Units - 1,260 drums

Unit Cost - See BOE Backup

Unit Cost Adjustment factor - 1.0

Revised Unit Cost -

Basis for adjustment -

Assumptions:

1,260 drums will be available for Head Space Gas Sampling

Resources

es		Cost Element		Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.20 Hours
_	Factors	0.2 hr/drum						
	A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	32.22 Dollars

Factors 31.5 \$/drum 1.02283 -- FY00 Escalation --

Line Item 22 - Stage & Transfer to HSGS

BOE

Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1AAG Activity Filter

Starts In FY

Item - HSGS Units - 1,260 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost -Basis for adjustment -Assumptions:

1,260 drums will be available for Head Space Gas Sampling

Resources

WBS No:

Activity ID:

es		Cost Element		Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.30 Hours
	Factors	0.3 H						
	A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	63.53 Dollars

Factors 62.11 D 1.02283 -- FY00 Escalation --

Line Item 23 - Receive and Stage for HSGS

1AAG

1AW3206335

BOE

Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data: Item - HSGS Units - 1,260 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost -Basis for adjustment -

Assumptions:

1,260 drums will be available for Head Space Gas Sampling

Resources

es		Cost Element		Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.30 Hours
	Factors	0.3 H						
	A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	31.76 Dollars
	Factors	31.05 D		1.02283 FY00 Escalation				

Line Item 24 - HSGS Support

BOE

Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data: Item - HSGS Units - 1,260 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost -Basis for adjustment -Assumptions:

1,260 drums will be available for Head Space Gas Sampling

Resources

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	0.50	Hours
	Factors	0.5 Hours							
	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	0.50	Hours
	Factors	0.5 Hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	31.76	Dollars
	Factors	31.05 Dollars		1.02283 FY00 Escalation					

Factors 31.05 Dollars Line Item 31 - Real Time Radiography

Cost Element

BOE

NMH&C crew X-raying drums 1200.00 2 fte NMH&C foreman supervising X-ray 600.00 1 fte RTR machine rental or SRS use 240000.00 contract machine ops

Department

Skill

Curve

Ouantity

Units

WBS No: 1AAG Baseline Devl Project **Rocky Flats Closure Project** Activity ID: 1AW3206335 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Starts In FY 750 STRAIGHT TIME BASE R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 1.200.00 Hours Linear 1200 Hours A5H SUBCONTRACTED SRVS 0000 NONE SA01S SSOC 371 Closure Project 245.479.20 Dollars Linear 1.02283 -- FY00 Escalation --240000 Dollars Factors Line Item 53 - Transport/Stage Support RCT for building support 1140.00 4 fte BOE NMH&C foreman supervising move 285.00 1 fte NMH&C operators moving drums 2280.00 8 fte Units Resources Cost Element Skill Department Curve 750 STRAIGHT TIME BASE R010 CHEMICAL SYSTEMS OPERATOR (| KF10H | Matl Steward Steel Workers Linear 0.00 Hours Proc Spec 5/31 M.S. Dbl Bdat KF10H Matl Steward Steel Workers 0.00 Hours 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI Linear Factors 4 285 hrs 0 5/31 M.S. Dbl Bdat RCT Line Item 55 - A5H Plug: 6-13-00 FY00 Target Red Estimators Experience - Scott Anderson, Waste & Remediation Operations BOE Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data: Item - HSGS Units - 1,260 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost -Basis for adjustment -Assumptions: 1,260 drums will be available for Head Space Gas Sampling Resources Cost Element Department **Ouantity** A5H SUBCONTRACTED SRVS 0000 NONE SA01S SSOC 371 Closure Project Linear 1.298.174.00 Dollars 1298174 Dollars Line Item SYS - Contingency And Escalation BOE Cost Element Skill Units Resources Department Curve Quantity CON CONTINGENCY 0000 NONE ZDEPT No Department 66.220.93 Dollars Linear Factors 66220.9 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department Linear 42.911.57 Dollars Factors 42911.6 Dollars

Activity ID:	1AW3206355	Description: FY01 Wet Repack Operation	ıs			Cost Risk	2 Schedule R	isk	4

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
01	GB40 Repack Operations	0.96	ea	HC	26,076	25,145	577,301	0	0	577,301	262,035	839,336
02	GB 40 Second Shift Operations	0.96	ea	HC	26,076	25,145	577,301	0	0	577,301	262,035	839,336
03	GB1509 Repack Operations	0.96	ea	HC	26,076	25,145	577,301	0	0	577,301	262,035	839,336
04	GB 1509 Second Shift	0.96	ea	HC	21,732	20,956	483,720	0	0	483,720	219,559	703,279
14	Operate Wet Repack NDA	0.96	ea	HC	600	579	15,975	0	0	15,975	7,251	23,225
16	Waste Inspection	3.86	each	HC	905	3,491	65,871	0	0	65,871	29,899	95,769
17	Drum Crushing in B991	9.64	each	HC	1	5	126	3,206	0	3,332	57	3,389
18	Commodities	3.86	each	HC	0	0	0	1,058,319	0	1,058,319	0	1,058,319
19	5/31 A5H NDA Support	0.96	each	HC	0	0	0	109,930	0	109,930	0	109,930
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	305.447	305.447	0	305.447
	To	tal for Activi	tv 1AW3206	355:		100.466	2.297.594	1.171.455	305.447	3.774.495	1.042.872	4.817.367

Line Item 01 - GB40 Repack Operations

BOE

Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

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WBS No: 1AAG Baseline Devl Proiect **Rocky Flats Closure Project** Activity ID: 1AW3206355 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter

Foreman 1 fte Process Specialist 10 fte

Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) RCT 2 fte

Resources

s	Cost Element		Skill		Department	Curve	Quantity Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	1.820.00 Hours
Factors	1 Supervisor		1820 hrs/vr				
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00 Hours
Factors	1810 hrs/vr		9 Process Sps.				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3.620.00 Hours
Factors	1810 hrs/vr		2 RCT				
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	364.00 Hours
Factors	1 Supervisor		1820 hrs/vr		0.2 20% Overtime		
751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	3.258.00 Hours
Factors	1810 hrs/vr		9 Process Sps.		0.2 20% Overtime		
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	724.00 Hours
Factors	0.2 20% Overtime		1810 hrs/vr		2 RCT		

Line Item 02 - GB 40 Second Shift Operations

BOE

Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte

Process Specialist 10 fte

Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) RCT 2 fte

Resources

es	Cost Element	Skill	Department	Curve	Quantity Units
Ĺ	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	1.820.00 Hours
	Factors 1 Supervisor	1820 hrs/vr			
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	16.290.00 Hours
	Factors 1810 hrs/fte	9 Process Sps.			
Ĺ	750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI	KA10H 371 Complex Steelworkers	Linear	3.620.00 Hours
	Factors 1810 hrs/vr	2 RCT			
Ĺ	751 OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	364.00 Hours
r	Factors 0.2 20% Overtime	1 Supervisor	1820 hrs/vr		
L	751 OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	3.258.00 Hours
	Factors 1810 hrs/vr	0.2 20% Overtime	9 Process Sps.		
Ĺ	751 OVERTIME BASE & PRE.	T050 RADIATION CONTROL TECHNOLIGI	KA10H 371 Complex Steelworkers	Linear	724.00 Hours
	Factors 1810 hrs/yr	0.2 20% Overtime	2 RCT		

Line Item 03 - GB1509 Repack Operations

BOE

Foreman supervising crew of nine (9) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

1 fte Foreman

Process Specialist 9 fte

Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) RCT 2 fte

Resources

es		Cost Element	Skill			Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	1.820.00 l	Hours
	Factors	1 Supervisor		1820 hrs/vr					
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00 l	Hours
	Factors	1810 hrs/vr		9 Process Sps.					
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3.620.00	Hours
	Factors	1810 hrs/vr		2 RCT					

WBS No: 1AAG Baseline Devl Project **Rocky Flats Closure Project** 1AAG Activity ID: 1AW3206355 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 751 OVERTIME BASE & PRE M010 FOREMEN / TEAM LEADS / GROUP | SA01S | SSOC 371 Closure Project 364.00 Hours Linear Supervisor 20% Overtime CHEMICAL SYSTEMS OPERATOR (3.258.00 Hours 751 OVERTIME BASE & PRE. R010 KA40H 371 Wet Combustibles Steelworkers Linear 20% Overtime Process Sps. 1810 hrs/vr 751 OVERTIME BASE & PRE T050 RADIATION CONTROL TECHNOLIGI | KA10H | 371 Complex Steelworkers Linear 724.00 Hours 20% Overtime Factors 1810 hrs/yr 2 **RCT** 0.2 Line Item 04 - GB 1509 Second Shift Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE Foreman 1 fte Process Specialist 10 fte 1 fte (Budgeted in Proj. Mgmt.) Civil Engineer RCT 2 fte Resources Cost Element Department 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project 1.820.00 Hours Linear Supervisor 750 STRAIGHT TIME BASE R010 CHEMICAL SYSTEMS OPERATOR (| KA40H | 371 Wet Combustibles Steelworkers 12.670.00 Hours Linear Process Sps. 1810 hrs/fte 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI KA10H 371 Complex Steelworkers Linear 3.620.00 Hours RCT Factors 1810 hrs/vr 751 OVERTIME BASE & PRE M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project Linear 364.00 Hours Factors 0.2 20% Overtime Supervisor 1820 hrs/vr 751 OVERTIME BASE & PRE R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 2.534.00 Hours Linear Factors 1810 hrs/vr 20% Overtime Process Sps. 751 OVERTIME BASE & PRE T050 RADIATION CONTROL TECHNOLIGI KA10H 371 Complex Steelworkers 724.00 Hours Linear Factors 1810 hrs/vr 20% Overtime RCT Line Item 14 - Operate Wet Repack NDA Process Specialist, Drum movements BOE Process Operator Foreman, Drum movements oversight NMH&C Process Specialist, Assay drums NMH&C Foreman, oversight for drum count Cost Element Units Resources Curve 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project Linear 200.00 Hours Factors Foreman 200 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project 400.00 Hours Linear Foreman 750 STRAIGHT TIME BASE R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers 0.00 Hours Linear Factors 52 wks/vr hrs/wk 5/31 M.S. Dbl Bdat Line Item 16 - Waste Inspection Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE Foreman 1 fte Process Specialist 10 fte Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) RCT 2 fte Resources Cost Element Department Curve. Units STRAIGHT TIME BASE L060 MISSION SUP SPEC II (FLTTCH, WS KH10H EESH&Q Steelworkers Linear 905.00 Hours Factors Waste Inspector Half time 1810 hrs/vr Line Item 17 - Drum Crushing in B991 Crush empty drums in B991 generated from the process line. Seven shipments totaling approximately 200 drums will take place in FY99. BOE Cost Element Units Resources Department Curve **Ouantity**

WBS No: 1AAG Project Baseline Devl **Rocky Flats Closure Project** 1AAG Activity ID: 1AW3206355 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY P170 OTHER ADMINISTRATIVE & PROFE R100S RMRS Salaried 750 STRAIGHT TIME BASE Linear 0.50 Hours Mamt./Intea. hr/ship CHEMICAL SYSTEMS OPERATOR (750 STRAIGHT TIME BASE R010 KF10H Matl Steward Steel Workers 0.00 Hours Linear PS hrs/ship 5/31 M.S. Dbl Bdat 750 STRAIGHT TIME BASE RADIATION CONTROL TECHNOLIGI KF10H Matl Steward Steel Workers Linear 0.00 Hours RCT 2 hrs/ship 5/31 M.S. Dbl Bdat Factors 1 A5H SUBCONTRACTED SRVS 0000 NONE R100S RMRS Salaried Linear 265.94 Dollars 1.02283 -- FY00 Escalation --Foreman hrs/ship 65 \$/hr 1 4 A5H SUBCONTRACTED SRVS 0000 NONE R100S RMRS Salaried 66.48 Dollars Linear Factors 1.02283 -- FY00 Escalation --65 \$/hr Waste Coord. hr/ship 1 Line Item 18 - Commodities Historical Data Source - Warehouse Materials Charges from 10/98 to 8/99 BOE Item Desc - Materials for Glovebox Operations Breakdown of Historical Data: Item - gloves, bags, cans, drums, safety items, special clothing, shoes, tools Units - 1s Unit Cost - \$260,424 per year per process line Unit Cost Adjustment factor -1.15 Escalation Skill Resources Cost Element Department Units A5C SUPPLIES 0000 NONE SA01S SSOC 371 Closure Project Linear 264.330.30 Dollars Factors 1.015 -- FY00 Escalation --260424 \$ SA01S SSOC 371 Closure Project A5T TAXES 0000 NONE Linear 10.044.55 Dollars Factors 1.015 -- FY00 Escalation --0.038 3.8% Sales Tax 260424 \$ Line Item 19 - 5/31 A5H NDA Support Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE Process Specialist 10 fte Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) RCT 2 fte Resources Cost Element Skill Department Curve **Ouantity** Units A5H SUBCONTRACTED SRVS 0000 NONE SA01S SSOC 371 Closure Project 114 000 00 Dollars Linear 114000 dollars Factors Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Department Curve **Quantity** Units CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 190.074.70 Dollars Factors 190075 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department 115.372.50 Dollars Linear Factors 115373 Dollars Activity ID: 1AW3206435 Description: FY02 Wet Gas Generation Testing Cost Risk 2 Schedule Risk Line Item **Ouantity** Units BOELabor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost Type Hours/Unit Total Total Cost & Escalation Cost HC 4.557 92.558 32.673 Operate Gas Generation Testing 30.97 con 147 77.249 169.807 202.480 Receive and Store @ Storage Fac 583.97 each HC 0 117 3 225 18.815 0 22.040 1.138 23.178 22 Stage & Transfer to HSGS 583.97 each HC 0 175 4.837 37.098 0 41.935 1.707 43.643 Receive and Stage for HSGS 583.97 each HC 0 175 4.837 18.546 0 23.383 1.707 25.091 24 HSGS Support 583 97 each HC 584 23 265 18 546 0 41 811 8 213 50 024 1 Real Time Radiography HC 125.976 31 0.51 ea 1.800 924 21.009 146.985 7.416 154.401 0 53 Transport/Stage Support 0.59 ea HC 279 165 4.569 0 4.569 1.613 6.181

1.00 ea

Total for Activity 1AW3206435:

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0

6.698

154.299

SYS

Contingency And Escalation

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76.256

76.256

76.256

526.786

0

54.468

76.256

581.253

WBS No: 1AAG Baseline Devl Project **Rocky Flats Closure Project** Activity ID: 1AW3206435 WBS Filter 1AAG

Baseline Cost and Basis of Estimate Activity Filter

Line Item 01 - Operate Gas Generation Testing

Based on FY99 historical data from gas generation testing with 15 units in B776: BOE

To support 15 Gas Gen. Testing Canisters for 1 week Process Specialist staging drums, 4fte x 4hrs

Process Specialist loading/undloading canisters, 4fte x 5hrs

Process Specialist sampling, 2samples x 1fte x 4hrs

Lab Tech, 2samples x 1fte x 6hrs

Foreman supervising, 1fte x 10hrs

For 1 unit, hours per week:

Process Specialist, 2.83 hours/week

Lab Tech, 1.00 hour/week

Foreman supervising, 0.67 hour/week

Resources

es			Cost Element			Skill			Department		Curve	Ouantity	Units
	750	STRAIGH	IT TIME BASE	R010	СНЕМІ	CAL SYSTEMS OPERATOR (KA40H	371 We	t Combustibles Steelworkers		Linear	147.16	Hours
	Factors	1	PS		52	wks/vr		2.83	hr/wk/canister				
	A5H	SUBCON	TRACTED SRVS	M010	FOREN	MEN / TEAM LEADS / GROUP	SA01S	SSOC 3	371 Closure Proiect		Linear	2,494,48	Dollars
	Factors	0.67	hrs/wk/canister		1	Foreman		52	wks/yr	70	\$/hr		

1.02283 -- FY00 Escalation --

Line Item 21 - Receive and Store @ Storage Fac

BOE

Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data:

Item - HSGS Units - 1,260 drums

Unit Cost - See BOE Backup

Unit Cost Adjustment factor - 1.0 Revised Unit Cost -

Basis for adjustment -

Assumptions:

1,260 drums will be available for Head Space Gas Sampling

Resource

ırces	Cost Element		Skill			Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.20 Hours
	Factors	0.2 hr/drum						
	A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	32.22 Dollars

1.02283 -- FY00 Escalation --Factors 31.5 \$/drum

Line Item 22 - Stage & Transfer to HSGS

BOE

Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities

Breakdown of Cost Data:

Item - HSGS

Units - 1,260 drums

Unit Cost - See BOE Backup

Unit Cost Adjustment factor - 1.0 Revised Unit Cost -

Basis for adjustment -

Assumptions:

1,260 drums will be available for Head Space Gas Sampling

Resource

ces		Cost Element		Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.30 Hours
	Factors	0.3 H						
	A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	63.53 Dollars
	Factors	62.11 D		1.02283 FY00 Escalation				

Factors 62.11 D Line Item 23 - Receive and Stage for HSGS

Estimators Experience - Scott Anderson, Waste & Remediation Operations BOE

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WBS No: 1AAG Activity ID: 1AW3206435

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1AAG

Experience Item Desc - FY 1999 TRU Waste Characterization Activities
Breakdown of Cost Data:

Item - HSGS
Units - 1,260 drums
Unit Cost - See BOE Backup
Unit Cost Adjustment factor - 1.0
Revised Unit Cost Basis for adjustment -

Assumptions:

1,260 drums will be available for Head Space Gas Sampling

Resources

es	Cost Element		Skill			Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.30	Hours
_	Factors	0.3 H							
	A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	31.76	Dollars

Factors 31.05 D 1.02283 -- FY00 Escalation --

Line Item 24 - HSGS Support

BOE

Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data:

Item - HSGS
Units - 660 drums
Unit Cost - See BOE Backup
Unit Cost Adjustment factor - 1.0
Revised Unit Cost Basis for adjustment -

Assumptions:

660 drums will be available for Head Space Gas Sampling

Resources

es	Cost Element		Skill		Department	Curve	Ouantity Units
L	750 STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	0.50 Hours
F	actors 0.5 Hours						
	750 STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	0.50 Hours
F	actors 0.5 Hours						
L	750 STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KF10H	Matl Steward Steel Workers	Linear	0.00 Hours
F	actors 2.6 Hours	ı	0 5/31 MS Dbl. Budget				
L	750 STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KF10H	Matl Steward Steel Workers	Linear	0.00 Hours
F	actors 1.1 Hours	ı	0 5/31 MS Dbl. Budget				
L	A5H SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	31.76 Dollars
E	actors 21.05 Dollars		1 02292 EV00 Eccalation				

Factors 31.05 Dollars 1.02283 -- FY00 Escalation --

Line Item 31 - Real Time Radiography

	riour rimerium grupiny		
BOE	NMH&C crew X-raying drums	1200.00	2 fte
502	NMH&C foreman supervising X-ray	600.00	1 fte
	DTD machine rental or CDC ugo	240000 00	gontragt maghine

Resources

BOE

es	Cost Element	Skill	Department	Curve	Quantity Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	600.00 Hours
	Factors 600 Hours				
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	1.200.00 Hours
	Factors 1200 Hours				
	A5H SUBCONTRACTED SRVS	0000 NONE	SA01S SSOC 371 Closure Project	Linear	245.479.20 Dollars

Factors 1.02283 -- FY00 Escalation -- 240000 Dollars

Line Item 53 - Transport/Stage Support

RCT for building support	1140.00	4	fte
NMH&C foreman supervising move	285.00	1	fte
NMH&C operators moving drums	2280.00	8	fte

Resources Cost Element Skill Department Curve Quantity Units

WBS No: 1AAG Project Baseline Devl **Rocky Flats Closure Project** 1AAG Activity ID: 1AW3206435 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP | SA01S | SSOC 371 Closure Project 279.42 Hours Linear Super 0.98041 Dept. Code Change from S126S CHEMICAL SYSTEMS OPERATOR (750 STRAIGHT TIME BASE R010 KF10H Matl Steward Steel Workers 0.00 Hours Linear 5/31 MS Dbl. Budget Proc Spec hrs 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI KF10H Matl Steward Steel Workers Linear 0.00 Hours 5/31 MS Dbl. Budget Factors 4 **RCT** 285 hrs Line Item SYS - Contingency And Escalation BOE Resources Cost Element Department CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 52.656.86 Dollars Factors 52656.9 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department Linear 23.599.24 Dollars Factors 23599.2 Dollars Activity ID: 1AW3206455 Description: FY02 Wet Repack Operations Cost Risk 2 Schedule Risk Line Item Description Units BOELabor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost **Ouantity** Type Hours/Unit Total **Total** Cost & Escalation Cost HC GB40 Repack Operations 0.32 ea 26.076 8.298 190.509 0 190.509 67.250 257.759 02 GB 40 Second Shift Operations 0.32 ea HC 26.076 8.298 190.509 0 0 190.509 67.250 257.759 GB1509 Repack Operations 0.32 ea HC 03 26.076 8.298 190.509 0 0 190.509 67.250 257.759 GB 1509 Second Shift Operations 0.32 ea HC 21.732 6.916 159.628 0 0 159.628 56.349 215.976 04 14 Operate Wet Repack NDA 0.32 ea HC 600 191 5.272 Λ 0 5.272 1.861 7.132 HC 3.895 16 Waste Inspection 0.65 each 905 585 11.033 0 0 11.033 14.928 Drum Crushing in B991 HC 1.923 17 5.79 each 3 76 0 1.999 27 2.026 1 HC 177.268 18 Commodities 0.65 each 0 0 Ω 177.268 0 177.268 0 19 5/31 A5H NDA Suport 0.96 each HC 0 0 0 109.930 0 109.930 Ω 109.930 SYS Contingency And Escalation 1.00 ea FF 0 0 0 196.385 196.385 0 196.385 0 32.588 747.536 Total for Activity 1AW3206455: 289.122 196.385 1.233.043 263.880 1.496.923 Line Item 01 - GB40 Repack Operations Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE Foreman 1 fte 10 fte Process Specialist 1 fte (Budgeted in Proj. Mgmt.) Civil Engineer RCT 2 fte Resources Cost Element Department Curve Ouantity Units 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP | SA01S | SSOC 371 Closure Project 1.820.00 Hours Linear 1 Supervisor 1820 hrs/vr CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers Linear 16.290.00 Hours 750 STRAIGHT TIME BASE Factors 1810 hrs/vr Process Sps. 3.620.00 Hours 750 STRAIGHT TIME BASE RADIATION CONTROL TECHNOLIGI | KA10H | 371 Complex Steelworkers Linear Factors 1810 hrs/vr RCT 751 OVERTIME BASE & PRE. M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project Linear 364 00 Hours 20% Overtime Supervisor 1820 hrs/vr Factors 1 R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 3.258.00 Hours 751 OVERTIME BASE & PRE Linear Process Sps. 0.2 20% Overtime Factors 1810 hrs/vr T050 RADIATION CONTROL TECHNOLIGI | KA10H | 371 Complex Steelworkers 724.00 Hours 751 OVERTIME BASE & PRE. Linear Factors 0.2 20% Overtime 1810 hrs/vr 2 Line Item 02 - GB 40 Second Shift Operations Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE Foreman 1 fte

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WBS No: 1AAG Baseline Devl Proiect **Rocky Flats Closure Project** Activity ID: 1AW3206455 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter

Process Specialist Civil Engineer 10 fte 1 fte (Budgeted in Proj. Mgmt.) RCT 2 fte

Resources

es	Cost Element		Skill		Department	Curve	Quantity Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	1.820.00 Hours
Factors	1 Supervisor		1820 hrs/vr				
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00 Hours
Factors	1810 hrs/fte		9 Process Sps.				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3.620.00 Hours
Factors	1810 hrs/vr		2 RCT				
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	364.00 Hours
Factors	0.2 20% Overtime		1 Supervisor		1820 hrs/vr		
751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	3.258.00 Hours
Factors	1810 hrs/vr		0.2 20% Overtime		9 Process Sps.		
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	724.00 Hours
Factors	1810 hrs/yr		0.2 20% Overtime		2 RCT		

Line Item 03 - GB1509 Repack Operations

BOE

Foreman supervising crew of nine (9) process specialists with engineer support for WIPP data package and RCT support. Overtime is 25% of total hours.

1 fte Foreman Process Specialist 9 fte

Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)

RCT 2 fte

Resources

s	Cost Element	Skill			Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	1.820.00 Hours
Factors	1 Supervisor		1820 hrs/vr	,			
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00 Hours
Factors	1810 hrs/vr		9 Process Sps.	,			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3.620.00 Hours
Factors	1810 hrs/vr		2 RCT	,			
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	364.00 Hours
Factors	1 Supervisor		1820 hrs/vr	,	0.2 20% Overtime		
751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	3.258.00 Hours
Factors	1810 hrs/vr		0.2 20% Overtime	,	9 Process Sps.		
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	724.00 Hours
Factors	1810 hrs/yr		2 RCT		0.2 20% Overtime		

Factors 1810 hrs/yr Line Item 04 - GB 1509 Second Shift Operations

BOE

Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

1 fte Foreman Process Specialist 10 fte

Civil Engineer RCT 1 fte (Budgeted in Proj. Mgmt.)

2 fte

Resources

es	Cost Element	Skill	Department	Curve	Quantity Units
7	50 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	1,820.00 Hours
Fac	etors 1 Supervisor	1820 hrs/yr			
7	50 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	12,670.00 Hours
Fac	tors 1810 hrs/fte	7 Process Sps.			
7	50 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIG	KA10H 371 Complex Steelworkers	Linear	3.620.00 Hours
Fac	tors 1810 hrs/vr	2 RCT			
7	51 OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Proiect	Linear	364.00 Hours
Fac	tors 0.2 20% Overtime	1 Supervisor	1820 hrs/vr		

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WBS No: 1AAG Baseline Devl Project **Rocky Flats Closure Project** Activity ID: 1AW3206455 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Starts In FY 751 OVERTIME BASE & PRE R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers 2.534.00 Hours Linear 1810 hrs/vr 20% Overtime Process Sps. T050 RADIATION CONTROL TECHNOLIGI KA10H 371 Complex Steelworkers 751 OVERTIME BASE & PRE 724.00 Hours Linear RCT Factors 1810 0.2 20% Overtime 2 Line Item 14 - Operate Wet Repack NDA Process Specialist, Drum movements BOE Process Operator Foreman, Drum movements oversight NMH&C Process Specialist, Assay drums NMH&C Foreman, oversight for drum count Cost Element Units Resources Department Curve 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project Linear 200.00 Hours Foreman STRAIGHT TIME BASE FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project Linear 400.00 Hours Foreman Factors 750 STRAIGHT TIME BASE R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers 0.00 Hours Linear Factors 2 wks/vr 25 hrs/wk 0 5/31 MS Dbl. Budget Line Item 16 - Waste Inspection Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours. BOE 1 fte Foreman Process Specialist 10 fte Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) 2 fte Resources Cost Element Department Curve **Ouantity** Units L060 MISSION SUP SPEC II (FLTTCH, WS KH10H EESH&Q Steelworkers 750 STRAIGHT TIME BASE Linear 905.00 Hours Waste Inspector 1810 Line Item 17 - Drum Crushing in B991 Crush empty drums in B991 generated from the process line. Seven shipments totaling approximately 200 drums will take place in FY99. BOE Cost Element Units. Resources Skill Department Curve 750 STRAIGHT TIME BASE OTHER ADMINISTRATIVE & PROFE R100S RMRS Salaried Linear 0.50 Hours Mamt./Intea. hr/ship 750 STRAIGHT TIME BASE CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers Linear 0.00 Hours 2 PS hrs/ship 5/31 MS Dbl. Budget Factors 750 STRAIGHT TIME BASE RADIATION CONTROL TECHNOLIGI KF10H Matl Steward Steel Workers 0.00 Hours Linear RCT hrs/ship 5/31 MS Dbl. Budget Factors A5H SUBCONTRACTED SRVS 0000 NONE R100S RMRS Salaried Linear 265.94 Dollars Factors 1.02283 -- FY00 Escalation --Foreman hrs/ship 65 \$/hr A5H SUBCONTRACTED SRVS 0000 NONE R100S RMRS Salaried Linear 66.48 Dollars 1.02283 -- FY00 Escalation --Factors Waste Coord. hr/ship 65 \$/hr Line Item 18 - Commodities Historical Data Source - Warehouse Materials Charges from 10/98 to 8/99 BOE Item Desc - Materials for Glovebox Operations Breakdown of Historical Data: Item - gloves, bags, cans, drums, safety items, special clothing, shoes, tools Units - 1s Unit Cost - \$260,424 per year per process line Unit Cost Adjustment factor -1.15 Escalation Resources Cost Element Department Quantity A5C SUPPLIES SA01S SSOC 371 Closure Project 0000 NONE Linear 264.330.30 Dollars 1.015 -- FY00 Escalation --260424 \$ Factors SA01S SSOC 371 Closure Project A5T TAXES 0000 NONE 10.044.55 Dollars Linear 260424 \$ Factors 1.015 -- FY00 Escalation --0.038 3.8% Sales Tax

WBS No: 1AAG 1AW3206455 Activity ID:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Baseline Devl Project WBS Filter 1AAG

Activity Filter

Starts In FY *

Line Item 19 - 5/31 A5H NDA Suport

BOE

Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte Process Specialist 10 fte

Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) 2 fte

Resources

Cost Element Skill A5H SUBCONTRACTED SRVS 0000 NONE SA01S SSOC 371 Closure Project Linear 114.000.00 Dollars

Factors 114000 dollars

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	135,609.20	Dollars
	Factors	135609 Dollars							
	FSC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	60 776 02	Dollars

Factors 60776.0 Dollars

Description: EV00 Glovebox Operations Maintenance

2 Schodulo Risk Cost Diele

Activity ID: TAV	Description: FY00 Glovebox Operation	siviaintenano		Cost Risk 2 Schedule Risk 4								
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub		Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
01	Routine GB Maintenance	0.50	each	EE	224	112	3.525	0	0	3.525	1.720	5.246
02	Routine GB & Room Filter Replacements	0.50	each	EE	90	45	1.208	0	0	1.208	590	1.798
03	GB Guillotine Door Maintenance	0.50	each	EE	160	80	2.142	0	0	2.142	1.045	3.187
04	Routine CAM Placement Smoke Test	0.50	each	EE	0	0	0	508	0	508	0	508
05	Metrology of Operations Equipment	0.50	each	BM	1.564	782	17.368	0	0	17.368	8.476	25.844
0A	Maintenance Planning	0.50	each	EE	0	0	0	27.420	0	27.420	0	27.420
11	Glovebox & C-Cell Routine Maintenance	0.50	each	EE	327	164	4.028	1.269	0	5.297	1.966	7.262
12	Guillotine Door Maintenance	0.50	each	EE	81	41	1.093	0	0	1.093	534	1.627
16	Metrology of Scale & Torque Wrench	0.50	each	EE	1.150	575	12.771	0	0	12.771	6.232	19.003
1A	Maintenance Planning	0.50	each	EE	0	0	0	27.420	0	27.420	0	27.420
	Т	otal for Activi	ty 1AW3206	668:		1.798	42.136	56.617	0	98.752	20.562	119.314

Line Item 01 - Routine GB Maintenance

BOE

Routine GB Maintenance.

RCT time is budgeted in operations.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mamt Steelworkers	Linear	80.00 Hours
i.	Factors	80 hrs						
	750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	24.00 Hours
	Factors	24 hrs						
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	80.00 Hours
	Factors	80 hrs						
	750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Proiect	Linear	40.00 Hours
	Factors	40 hrs						

Line Item 02 - Routine GB & Room Filter Replacements

BOE

This work order will provide routine GB & room filter replacements.

RCT time is budgeted in operations.

Resources

es	Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	C040 MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mamt Steelworkers	Linear	40.00 l	Hours
	Factors	40 hrs						

WBS No: Activity ID:	1AAG 1AW3206668		Closure Proiect ad Basis of Estimate	Proiect WBS Filter Activity Filter	Baseline Devl 1AAG *	Starts In FY *
	750 STRAIGHT TIME BASE	E070 MECHANICAL ENGINEERS	SA01S SSOC 371 Closure Project		Linear	8.00 Hours
	Factors 8 hrs 750 STRAIGHT TIME BASE Factors 4 hrs	E080 NUCLEAR (CRITICALITY) ENGINEER	SA01S SSOC 371 Closure Proiect		Linear	4.00 Hours
	750 STRAIGHT TIME BASE	E110 QUALITY CONTROL ENGINEERS	SA01S SSOC 371 Closure Project		Linear	8.00 Hours
	Factors 8 hrs 750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS AN	SA01S SSOC 371 Closure Project		Linear	30.00 Hours
l ino Itom 03	Factors 30 hrs GB Guillotine Door Maintenance					
BOE	This work order provides for GB Guil	llotine Door Maintenance.				
	RCT time is budgeted in operations.					
Resources		Skill	Department		Curve	Ouantity Units
	750 STRAIGHT TIME BASE	C090 STRUCTURAL AND METAL WORKE	KA20H 371/374 Facility Mamt Steel	workers	Linear	80.00 Hours
	Factors 80 hrs 750 STRAIGHT TIME BASE	E070 MECHANICAL ENGINEERS	SA01S SSOC 371 Closure Project		Linear	24.00 Hours
	Factors 24 hrs	1 LUTO INICCITATICAL ENGINEERS	SAUTS ISSUE STI Closure Florect		Lilleal	24.00 110015
	750 STRAIGHT TIME BASE	E080 NUCLEAR (CRITICALITY) ENGINEER	SA01S SSOC 371 Closure Project		Linear	8.00 Hours
	Factors 8 hrs	I				
	750 STRAIGHT TIME BASE Factors 8 hrs	E110 QUALITY CONTROL ENGINEERS	SA01S SSOC 371 Closure Proiect		Linear	8.00 Hours
	750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS AN	SA01S SSOC 371 Closure Project		Linear	40.00 Hours
	Factors 40 hrs					
	Routine CAM Placement Smoke Test					
BOE	This work order provides for Routine	e CAM Placement Smoke Tests.				
	RCT time is budgeted in operations.					
Resources	Cost Element	Skill	Department		Curve	Ouantity Units
	A5C SUPPLIES	0000 NONE	SA01S SSOC 371 Closure Proiect		Linear	1.016.00 Dollars
l ina ltam OF	Factors 1016 Dollars					
BOE	Metrology of Operations Equipment Benchmark Source - Metrology Lab and	d Operations Project Lead				
BOL	Benchmark Item Desc - Metrology of (
	Breakdown of Benchmark Data: Item - 1 Scale (1/yr), 1 Torque Wre	ench (1/yr), 10 Alpha Mets (weekly=52	0), Gram			
	Estimator (daily=260)		.,,			
	Units - 782 calibrations Unit Cost - 2 hours per calibration	n				
Resources		Skill	Dominion		Comme	Occupation Harton
Resources	Cost Element 750 STRAIGHT TIME BASE	T070 MAINT, TECHS. (INSTRUMENT TEC	MA20H 371/374 Facility Mamt Steel	workers	Curve Linear	Ouantity Units 1.564.00 Hours
	Factors 782 calibrations	2 hrs/calibration	TANGET OF THE STORY WATER STORY	WOINOIO	Linoui	1.001.00110410
Line Item 0A -	- Maintenance Planning					
BOE	Routine GB Maintenance.					
	RCT time is budgeted in operations.					
Resources	Cost Element	Skill	Department		Curve	Ouantity Units
Resources	A57 LATA	P070 COST ESTIMATORS PLANNERS AN			Linear	51.840.00 Dollars
	Factors 1 Planner	60 hours/mo	12 mo/vear		72 \$/hour	
	A58 ASI	0000 NONE	SA01S SSOC 371 Closure Proiect		Linear	3.000.00 Dollars
l ine Itom 11	Factors 3000 Dollars/Year Glovebox & C-Cell Routine Maintenance					
BOE	Historical Data Source - Building 37	71 maintenance in FY98				
BUE	Item Desc -					

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Rockv Flats Closure Proiect Proiect Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter *

Breakdown of Historical Data:

Item Units Unit Cost Unit Cost Adjustment factor Revised Unit Cost Basis for adjustment -

RCT time is budgeted in operations.

Resources

WBS No:

Activity ID:

1AAG

1AW3206668

es		Cost Element		Skill		Department	Curve	Quantity Units
L	750	STRAIGHT TIME BASE	C010	CARPENTERS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	55.00 Hours
	Factors	55 hrs						
Į	750	STRAIGHT TIME BASE	C020	ELECTRICIANS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	55.00 Hours
ŕ	Factors	55 hrs						
L	750	STRAIGHT TIME BASE	C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mgmt Steelworkers	Linear	17.00 Hours
r	Factors	1 Machinist	1	17 hrs				
L	750	STRAIGHT TIME BASE	C070	PAINTERS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	30.00 Hours
r	Factors	1 Painter	1	30 hrs				
L	750	STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mgmt Steelworkers	Linear	55.00 Hours
r	Factors	55 hrs	1					
Į	750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	19.00 Hours
ŕ	Factors	1 Engineer (HVAC/Mech.)		19 hrs		1	1	
L	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	19.00 Hours
r	Factors	1 Nuc Safetv Eng		19 hrs				
Į	750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	3.00 Hours
ŕ	Factors	3 hrs	1	1 Quality Reviewer/Inspector		1		
L	750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Proiect	Linear	55.00 Hours
ŕ	Factors	55 hrs	1	1		1		
Į	750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Proiect	Linear	19.00 Hours
ľ	Factors	19 hrs	1	1 Mtce Planner				
L	A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Proiect	Linear	2.537.50 Dollars
	Factors	1 015 FY00 Escalation		2500 SCBA Gloves Bagout Bags	Hand			

Factors 1.015 -- FY00 Escalation -- 2500 SCBA, Gloves Bagout Bags, Hand

Line Item 12 - Guillotine Door Maintenance

BOE

Historical Data Source - Building 371 maintenance in FY98
Item Desc Breakdown of Historical Data:
Item Units Unit Cost Unit Cost Adjustment factor Revised Unit Cost Basis for adjustment -

RCT time is budgeted in operations.

Resources

s	Cost Element		Skill		Department	Curve	Ouantity Units
7	50 STRAIGHT TIME BASE	C080	PLUMBERS AND PIPEFITTERS	KA20H	371/374 Facility Mamt Steelworkers	Linear	14.00 Hours
Fac	tors 14 hrs		1 Pipefitter				
7	50 STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mamt Steelworkers	Linear	28.00 Hours
Fac	tors 28 hrs						
_ 7	50 STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	19.00 Hours
Fac	tors 1 Mech./HVAC		19 hrs				
_ 7	50 STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	6.00 Hours
Fac	tors 1 Nuc Safety Eng		6 hrs				
7	50 STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	14.00 Hours
Fac	tors 14 hrs		1 Mtce Planner				

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Baseline Devl

WBS No: 1AAG **Rocky Flats Closure Project** 1AW3206668 Activity ID: **Baseline Cost and Basis of Estimate** Proiect Baseline Devl 1AAG WBS Filter Activity Filter

Starts In FY *

Line Item 16 - Metrology of Scale & Torque Wrench

BOE

Benchmark Source - Metrology Lab and Operations Project Lead Benchmark Item Desc - Metrology of Operation Equipment

Breakdown of Benchmark Data:

Item - 1 Scale (1/yr), 2 Torque Wrenches (1/yr=2), 6 Alpha Mets (weekly=312), Gram

Estimator (daily=260)

Units - 575 calibrations

Unit Cost - 2 hours per calibration

Resource

rces		Cost Element		Skill	Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	T070	MAINT. TECHS. (INSTRUMENT TEC	KA20H 371/374 Facility Momt Steelworkers	Linear	1.150.00	Hours

575 Calibrations 2 hrs/calibration **Factors**

Line Item 1A - Maintenance Planning

BOE

Routine GB Maintenance.

RCT time is budgeted in operations.

Resources

es		Cost Element			Skill			Department		Curve	Ouantity	Units
	A57 L	_ATA		P070	COST E	STIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project		Linear	51.840.00	Dollars
	Factors	1	Planner		60	hours/mo		12 mo/vear	72	\$/hour		
	Δ58 4	ΔSI		0000	NONE		SA01S	SSOC 371 Closure Project		Linear	3 000 00	Dollars

Factors 3000 Dollars/Year

Activity ID: 1A	W3206669 Description: FY01 Glovebox Operation	ons Maintenand	e					Cost Risk	2 Schedule R	isk 4		
Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Routine GB Maintenance	1.00	each	EE	72	72	2.271	0	0	2.271	1.083	3.355
02	Routine GB & Room Filter Replacements	1.00	each	EE	50	50	1.584	5.268	0	6.852	756	7.608
03	GB Guillotine Door Maintenance	1.00	each	EE	80	80	2.566	2.107	0	4.673	1.224	5.898
04	Routine CAM Placement Smoke Test	1.00	each	EE	0	0	0	1.054	0	1.054	0	1.054
0A	Maintenance Planner	1.00	each	EE	0	0	0	54.840	0	54.840	0	54.840
11	Glovebox & C-Cell Routine Maintenance	1.00	each	EE	473	473	11.630	2.634	0	14.264	5.547	19.811
12	Guillotine Door Maintenance	1.00	each	EE	115	115	3.095	527	0	3.622	1.476	5.098
14	Misc Materials	1.00	each	EE	0	0	0	2.634	0	2.634	0	2.634
15	Misc Work Activities - Emergent Work	1.00	each	EE	0	0	0	2.634	0	2.634	0	2.634
16	Metrology of Scale & Torque Wrench	1.00	each	EE	1.150	1.150	25.541	0	0	25.541	12.183	37.725
1A	Maintenance Planner	1.00	each	EE	0	0	0	54.840	0	54.840	0	54.840
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	10.455	10.455	0	10.455
		Total for Activ	ity 1AW3206	6669:		1,940	46.688	126,537	10,455	183,680	22,270	205,950

Line Item 01 - Routine GB Maintenance

BOE

Routine GB Maintenance.

RCT time is budgeted in operations.

Resources

es	Cost Element			Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	24.00 Hours
	Factors	24hrs						
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	8.00 Hours
	Factors	8 hrs						
	750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	40.00 Hours
	Factors	40 hrs						

Line Item 02 - Routine GB & Room Filter Replacements

This work order will provide routine GB & room filter replacements. BOE

RCT time is budgeted in operations.

Units Resources Cost Element Skill Curve Quantity Department

WBS No: Baseline Devl 1AAG Project **Rocky Flats Closure Project** Activity ID: 1AW3206669 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE E070 MECHANICAL ENGINEERS SA01S SSOC 371 Closure Project 8.00 Hours Linear hrs E080 NUCLEAR (CRITICALITY) ENGINEER SA01S SSOC 371 Closure Project 750 STRAIGHT TIME BASE 4.00 Hours Linear hrs 750 STRAIGHT TIME BASE E110 QUALITY CONTROL ENGINEERS SA01S SSOC 371 Closure Project Linear 8.00 Hours Factors 8 hrs P070 COST ESTIMATORS PLANNERS AN 750 STRAIGHT TIME BASE SA01S SSOC 371 Closure Project Linear 30.00 Hours 30 hrs Factors A5C SUPPLIES SA01S SSOC 371 Closure Project 5.075.00 Dollars 0000 NONE Linear 5000 \$ 1.015 -- FY00 Escalation --Factors A5T TAXES 0000 NONE SA01S SSOC 371 Closure Project 192.85 Dollars Linear Factors 5000 \$ 0.038 3.8% Sales Tax 1.015 -- FY00 Escalation --Line Item 03 - GB Guillotine Door Maintenance This work order provides for GB Guillotine Door Maintenance. BOE RCT time is budgeted in operations. Resources Cost Element Department Curve Units E070 MECHANICAL ENGINEERS SA01S SSOC 371 Closure Project 750 STRAIGHT TIME BASE Linear 24.00 Hours 24 hrs 750 STRAIGHT TIME BASE NUCLEAR (CRITICALITY) ENGINEER SA01S SSOC 371 Closure Project 8.00 Hours Linear hrs 750 STRAIGHT TIME BASE E110 QUALITY CONTROL ENGINEERS SA01S SSOC 371 Closure Project Linear 8.00 Hours Factors 8 hrs 750 STRAIGHT TIME BASE P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project 40.00 Hours Linear 40 hrs Factors A5C SUPPLIES SA01S SSOC 371 Closure Project 2.030.00 Dollars 0000 NONE Linear 2000 \$ -- FY00 Escalation --Factors 1.015 A5T TAXES 0000 NONE SA01S SSOC 371 Closure Project 77.14 Dollars Linear 2000 0.038 3.8% Sales Tax 1.015 -- FY00 Escalation --1.015 -- FY00 Escalation --Line Item 04 - Routine CAM Placement Smoke Test This work order provides for Routine CAM Placement Smoke Tests. BOE RCT time is budgeted in operations. Resources Cost Elemen Skill Department Unite SA01S SSOC 371 Closure Project A5C SUPPLIES 0000 NONE Linear 1.015.00 Dollars 1000 \$ -- FY00 Escalation --1.015 Factors A5T TAXES 0000 NONE SA01S SSOC 371 Closure Project 38.57 Dollars Linear 3.8% Sales Tax 1.015 -- FY00 Escalation --Factors 1000 0.038 Line Item 0A - Maintenance Planner Routine GB Maintenance. BOE RCT time is budgeted in operations. Cost Element Resources Department A57 LATA P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project Linear 51.840.00 Dollars Planner 60 hours/mo mo/vear 72 \$/hour **Factors** 0000 NONE SA01S SSOC 371 Closure Project 3.000.00 Dollars A58 ASI Linear Factors 3000 Dollars/Year Line Item 11 - Glovebox & C-Cell Routine Maintenance Historical Data Source - Building 371 maintenance in FY98 BOE Item Desc -Breakdown of Historical Data: Ttem -Units -

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1AAG
1AW3206669

Rockv Flats Closure Proiect
Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1AAG Activity Filter *

Starts In FY *

Unit Cost -Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -

RCT time is budgeted in operations.

Resources

WBS No:

Activity ID:

es		Cost Element		Skill		Department	Curve	Ouantity Units
L	750	STRAIGHT TIME BASE	C010	CARPENTERS	KA20H	371/374 Facility Mamt Steelworkers	Linear	80.00 Hours
1	Factors	2 carps		40 hrs				
L	750	STRAIGHT TIME BASE	C020	ELECTRICIANS	KA20H	371/374 Facility Mamt Steelworkers	Linear	80.00 Hours
Į.	Factors	2 electricians		40 hrs				
L	750	STRAIGHT TIME BASE	C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mamt Steelworkers	Linear	24.00 Hours
1	Factors	1 Machinist		24 hrs				
L	750	STRAIGHT TIME BASE	C070	PAINTERS	KA20H	371/374 Facility Mamt Steelworkers	Linear	44.00 Hours
Į.	Factors	1 Painter		44 hrs				
L	750	STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mamt Steelworkers	Linear	80.00 Hours
1	Factors	2 sheetmetal wrkrs		40 hrs				
L	750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	27.00 Hours
1	Factors	1 Engineer (HVAC/Mech.)		27 hrs		1		
L	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	27.00 Hours
1	Factors	1 Nuc Safety Eng		27 hrs				
L	750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	4.00 Hours
1	Factors	1 Quality Reviewer/Inspector		4 hrs				
L	750	STRAIGHT TIME BASE	P070	ICOST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Proiect	Linear	27.00 Hours
4	Factors	1 Mtce Planner		27 hrs				
L	750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Proiect	Linear	80.00 Hours
4	Factors	2 Mtce Planners		40 hrs				
L	A5C	SUPPLIES		NONE	SA01S	SSOC 371 Closure Proiect	Linear	2.537.50 Dollars
1	Factors	2500 Windows, gaskets, gloves,						
L	A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Proiect	Linear	96.43 Dollars
1	Factors	2500 \$		0.038 3.8% Sales Tax		1.015 FY00 Escalation		

Line Item 12 - Guillotine Door Maintenance

BOE

Historical Data Source - Building 371 maintenance in FY98
Item Desc Breakdown of Historical Data:
Item Units Unit Cost Unit Cost Adjustment factor Revised Unit Cost Basis for adjustment -

RCT time is budgeted in operations.

Resources

s	Cost Element		Skill		Department	Curve	Quantity Units
75	STRAIGHT TIME BASE	C080	PLUMBERS AND PIPEFITTERS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	20.00 Hours
Facto	rs 1 Pipefitter		20 hrs				
75	STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mgmt Steelworkers	Linear	40.00 Hours
Facto	rs 2 sheetmetal wrkrs		20 hrs				
75	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	27.00 Hours
Facto	rs 1 Mech./HVAC		27 hrs				
75	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	8.00 Hours
Facto	rs 1 Nuc Safety Eng		8 hrs				
75	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Proiect	Linear	20.00 Hours
Facto	rs 20 hrs		1 Mtce Planner		·		

WBS No: 1AAG Baseline Devl Project **Rocky Flats Closure Project** Activity ID: 1AW3206669 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY SA01S SSOC 371 Closure Project A5C SUPPLIES 0000 NONE 507.50 Dollars Linear Factors 500 Misc. materials 1.015 -- FY00 Escalation --SA01S SSOC 371 Closure Project A5T TAXES 0000 NONE 19.28 Dollars Linear Factors 500 0.038 3.8% Sales Tax 1.015 -- FY00 Escalation --Line Item 14 - Misc Materials Historical Data Source - Building 371 maintenance in FY98 BOE Item Desc -Breakdown of Historical Data: Item -Units -Unit Cost -Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -Resources Cost Element Skill **Ouantity** Units Department Curve A5C SUPPLIES SA01S SSOC 371 Closure Project 2.537.50 Dollars 0000 NONE Linear 2500 SCBA, Gloves Bagout Bags, Hand 1.015 -- FY00 Escalation --Factors A5T TAXES 0000 NONE SA01S SSOC 371 Closure Project 96.43 Dollars Linear \$ 0.038 3.8% Sales Tax 1.015 -- FY00 Escalation --Factors 2500 Line Item 15 - Misc Work Activities - Emergent Work Historical Data Source - Building 371 maintenance in FY98 BOE Item Desc -Breakdown of Historical Data: Item -Units -Unit Cost -Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -Resources Cost Element Skill Department Curve **Quantity** Units A5C SUPPLIES 0000 NONE SA01S SSOC 371 Closure Project Linear 2.537.50 Dollars Factors 2500 1.015 -- FY00 Escalation --A5T TAXES SA01S SSOC 371 Closure Project 96.43 Dollars 0000 NONE Linear 2500 \$ 1.015 -- FY00 Escalation --0.038 3.8% Sales Tax Factors Line Item 16 - Metrology of Scale & Torque Wrench Benchmark Source - Metrology Lab and Operations Project Lead BOE Benchmark Item Desc - Metrology of Operation Equipment Breakdown of Benchmark Data: Item - 1 Scale (1/yr), 2 Torque Wrenches (1/yr=2), 6 Alpha Mets (weekly=312), Gram Estimator (daily=260) Units - 575 calibrations/yr Unit Cost - 2 hours per calibration Resources Cost Element Skill Department Curve **Ouantity** Units T070 MAINT, TECHS, (INSTRUMENT TEC | KA20H | 371/374 Facility Mgmt Steelworkers 750 STRAIGHT TIME BASE Linear 1.150.00 Hours Factors Calibrations hrs/calibration Line Item 1A - Maintenance Planner Routine GB Maintenance. BOE RCT time is budgeted in operations. Resources Cost Element Skill Department Curve **Ouantity** Units A57 LATA P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project Linear 51.840.00 Dollars Planner **Factors** 60 hours/mo 12 mo/vear \$/hour ASI 0000 NONE SA01S SSOC 371 Closure Project A58 Linear 3.000.00 Dollars 3000 Dollars/Year Factors

WBS No: 1AAG Activity ID: 1AW3206669

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1AAG Activity Filter *

Starts In FY

Line Item SYS - Contingency And Escalation

BOE

Resources	Cost Element		Skill	Department	Curve	Ouantity Units
	CON CONTINGENCY	0000	NONE	ZDEPT No Department	Linear	6.343.82 Dollars
	Factors 6343.82 Dollars					
	ESC ESCALATION	0000	NONE	ZDEPT No Department	Linear	4.110.83 Dollars

Factors 4110.83 Dollars

Activity ID: 1A	W3206670 Description: FY02 Glovebox Opera	tions Maintenance					Cost Risk	2 Schedule K	lisk 4		
Line Item	Description	Quantity Unit.	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
01	Routine GB Maintenance	0.33 each	EE	152	50	1.299	695	0	1.994	458	2.452
02	Routine GB & Room Filter Replacements	0.33 each	EE	90	30	797	1.738	0	2.536	281	2.817
03	GB Guillotine Door Maintenance	0.33 each	EE	160	53	1.413	695	0	2.109	499	2.608
04	Routine CAM Placement Smoke Test	0.33 each	EE	0	0	0	348	0	348	0	348
11	Glovebox & C-Cell Routine Maintenance	0.33 each	EE	473	156	3.838	869	0	4.707	1.355	6.062
12	Guillotine Door Maintenance	0.33 each	EE	115	38	1.021	174	0	1.195	361	1.556
14	Misc Materials	0.33 each	EE	0	0	0	869	0	869	0	869
15	Misc Work Activities - Emergent Work	0.33 each	EE	0	0	0	869	0	869	0	869
16	Metrology of Scale & Torque Wrench	0.33 each	EE	1.150	380	8.429	0	0	8.429	2.975	11.404
A	Maintenance Planner	0.33 each		0	0	0	18.097	0	18.097	0	18.097
SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	7.110	7.110	0	7.110
		Total for Activity 1AW3	206670:		706	16.797	24.355	7.110	48.262	5.929	54.192

Line Item 01 - Routine GB Maintenance

BOE

Routine GB Maintenance.

RCT time is budgeted in operations.

Resources

s	Cost Element			Skill		Department	Curve	Quantity Units
750	STRAIGHT TIME BASE	C040	MAINTEN	ANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mgmt Steelworkers	Linear	80.00 Hours
Factors	80 hrs							
750	STRAIGHT TIME BASE	E070	MECHAN	ICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	24.00 Hours
Factors	24 hrs							
750	STRAIGHT TIME BASE	E080	NUCLEAR	R (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	8.00 Hours
Factors	8 hrs							
750	STRAIGHT TIME BASE	P070	COST ES	TIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	40.00 Hours
Factors	40 hrs		,				Ţ	
A5C	SUPPLIES	0000	NONE		SA01S	SSOC 371 Closure Proiect	Linear	2.030.00 Dollars
Factors	2000 hrs		1.015	FY00 Escalation			Ţ	
A5T	TAXES	0000	NONE		SA01S	SSOC 371 Closure Proiect	Linear	77.14 Dollars
Factors	2000 \$		0.038	3.8% Sales Tax		1.015 FY00 Escalation		

Line Item 02 - Routine GB & Room Filter Replacements

BOE

This work order will provide routine GB & room filter replacements.

RCT time is budgeted in operations.

Resources

es	Cost Element		Skill		Department	Curve	Ouantity	Units
750	STRAIGHT TIME BASE	C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mamt Steelworkers	Linear	40.00 F	lours
Factors	40 hrs							
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	8.00 H	lours
Factors	8 hrs							
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	4.00 H	lours
Factors	4 hrs							
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	8.00 H	lours
Factors	8 hrs							

WBS No: Baseline Devl 1AAG Project **Rocky Flats Closure Project** Activity ID: 1AW3206670 WBS Filter 1AAG **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project 30.00 Hours Linear 30 hrs Factors SA01S SSOC 371 Closure Project A5C SUPPLIES 0000 NONE 5.075.00 Dollars Linear 5000 1.015 -- FY00 Escalation --A5T TAXES 0000 NONE SA01S SSOC 371 Closure Project Linear 192.85 Dollars 1.015 -- FY00 Escalation --Factors 5000 0.038 3.8% Sales Tax Line Item 03 - GB Guillotine Door Maintenance This work order provides for GB Guillotine Door Maintenance. BOE RCT time is budgeted in operations. Resources Cost Element Skill Department Curve Units 750 STRAIGHT TIME BASE C090 STRUCTURAL AND METAL WORKE | KA20H | 371/374 Facility Mgmt Steelworkers 80.00 Hours Linear 80 hrs 750 STRAIGHT TIME BASE E070 MECHANICAL ENGINEERS SA01S SSOC 371 Closure Project 24.00 Hours Linear Factors 24 hrs 750 STRAIGHT TIME BASE E080 NUCLEAR (CRITICALITY) ENGINEER SA01S SSOC 371 Closure Project Linear 8.00 Hours Factors 8 hrs E110 QUALITY CONTROL ENGINEERS SA01S SSOC 371 Closure Project 8.00 Hours 750 STRAIGHT TIME BASE Linear 8 hrs P070 COST ESTIMATORS PLANNERS AN 750 STRAIGHT TIME BASE SA01S SSOC 371 Closure Project 40.00 Hours Linear 40 hrs 2.030.00 Dollars A5C SUPPLIES 0000 NONE SA01S SSOC 371 Closure Project Linear Factors 2000 -- FY00 Escalation --1.015 A5T TAXES 0000 NONE SA01S SSOC 371 Closure Project 77.14 Dollars Linear 2000 \$ 0.038 3.8% Sales Tax 1.015 -- FY00 Escalation --1.015 -- FY00 Escalation --Factors Line Item 04 - Routine CAM Placement Smoke Test This work order provides for Routine CAM Placement Smoke Tests. BOE RCT time is budgeted in operations. Resources Cost Element Department A5C SUPPLIES 0000 NONE SA01S SSOC 371 Closure Project 1.015.00 Dollars Linear Factors 1000 1.015 -- FY00 Escalation --A5T TAXES 0000 NONE SA01S SSOC 371 Closure Project Linear 38.57 Dollars Factors 1000 \$ 0.038 3.8% Sales Tax 1.015 -- FY00 Escalation --Line Item 11 - Glovebox & C-Cell Routine Maintenance Historical Data Source - Building 371 maintenance in FY98 BOE Item Desc -Breakdown of Historical Data: Item -Units -Unit Cost -Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -RCT time is budgeted in operations. Resources Cost Element Skill Department Curve Units 750 STRAIGHT TIME BASE C010 CARPENTERS KA20H 371/374 Facility Mgmt Steelworkers Linear 80.00 Hours Factors 2 carps 40 hrs KA20H 371/374 Facility Mamt Steelworkers 750 STRAIGHT TIME BASE C020 **ELECTRICIANS** Linear 80.00 Hours 2 electricians 40 hrs Factors MAINTENANCE MACHINIST (incl Exp | KA20H | 371/374 Facility Mamt Steelworkers 24.00 Hours 750 STRAIGHT TIME BASE Linear Factors 1 Machinist 24 hrs

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 WBS No:
 1AAG
 Rockv Flats Closure Project
 Project
 Baseline Devl

 Activity ID:
 1AW3206670
 Baseline Cost and Basis of Estimate
 WBS Filter Activity Filter
 1AAG

	Baseline Cost an	Activity Filter	*	Starts In FY *
750 STRAIGHT TIME BASE	C070 PAINTERS	KA20H 371/374 Facility Mamt Steelworkers	Linear	44.00 Hours
Factors 1 Painter	44 hrs			
750 STRAIGHT TIME BASE	C090 STRUCTURAL AND METAL WORKE	KA20H 371/374 Facility Mamt Steelworkers	Linear	80.00 Hours
Factors 2 sheetmetal wrkrs	40 hrs		•	
750 STRAIGHT TIME BASE	E070 MECHANICAL ENGINEERS	SA01S SSOC 371 Closure Project	Linear	27.00 Hours
Factors 1 Engineer (HVAC/Mech.)	27 hrs		,	
750 STRAIGHT TIME BASE	E080 NUCLEAR (CRITICALITY) ENGINEER	SA01S SSOC 371 Closure Proiect	Linear	27.00 Hours
Factors 1 Nuc Safety Eng	27 hrs		,	
750 STRAIGHT TIME BASE	E110 QUALITY CONTROL ENGINEERS	SA01S SSOC 371 Closure Proiect	Linear	4.00 Hours
Factors 1 Quality Reviewer/Inspector			1	
750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS AN	SA01S SSOC 371 Closure Proiect	Linear	27.00 Hours
Factors 1 Mtce Planner	27 hrs		ı	
750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS AN	SA01S SSOC 371 Closure Proiect	Linear	80.00 Hours
Factors 2 Mtce Planners	40 hrs		1	
A5C SUPPLIES	0000 NONE	SA01S SSOC 371 Closure Proiect	Linear	2.537.50 Dollars
Factors 2500 Windows, gaskets, gloves.	shielding. 1.015 FY00 Escalation		1	
A5T TAXES	0000 NONE	SA01S SSOC 371 Closure Proiect	Linear	96.43 Dollars
Factors 2500 \$	0.038 3.8% Sales Tax	1.015 FY00 Escalation		

Line Item 12 - Guillotine Door Maintenance

BOE

Historical Data Source - Building 371 maintenance in FY98
Item Desc Breakdown of Historical Data:
Item Units Unit Cost Unit Cost Adjustment factor Revised Unit Cost Basis for adjustment RCT time is budgeted in operations.

Resources

es	Cost Element		Skill		Department	Curve	Quantity Units
750	STRAIGHT TIME BASE	C080	PLUMBERS AND PIPEFITTERS	KA20H	371/374 Facility Mamt Steelworkers	Linear	20.00 Hours
Factors	1 Pipefitter		20 hrs				
750	STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mamt Steelworkers	Linear	40.00 Hours
Factors	2 sheetmetal wrkrs		20 hrs		T	_	
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	27.00 Hours
Factors	1 Mech./HVAC		27 hrs			_	
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	8.00 Hours
Factors	1 Nuc Safetv Eng		8 hrs			_	
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Proiect	Linear	20.00 Hours
Factors	20 hrs		1 Mtce Planner		T	_	
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Proiect	Linear	507.50 Dollars
Factors	500 Misc. materials		1.015 FY00 Escalation		T	_	
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Proiect	Linear	19.28 Dollars
Factors	500 \$		0.038 3.8% Sales Tax		1.015 FY00 Escalation		

Line Item 14 - Misc Materials

BOE

Historical Data Source - Building 371 maintenance in FY98
Item Desc Breakdown of Historical Data:
Item Units Unit Cost Unit Cost Adjustment factor Revised Unit Cost Basis for adjustment -

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WBS No: 1AAG Project Baseline Devl **Rocky Flats Closure Project** 1AAG Activity ID: 1AW3206670 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY Skill Resources Cost Element Department Curve A5C SUPPLIES 0000 NONE SA01S SSOC 371 Closure Project Linear 2.537.50 Dollars -- FY00 Escalation --2500 SCBA, Gloves Bagout Bags, Hand 1.015 SA01S SSOC 371 Closure Project 96.43 Dollars A5T TAXES 0000 NONE Linear 2500 \$ 0.038 3.8% Sales Tax 1.015 -- FY00 Escalation --Factors Line Item 15 - Misc Work Activities - Emergent Work Historical Data Source - Building 371 maintenance in FY98 BOE Item Desc -Breakdown of Historical Data: Ttem -Units -Unit Cost -Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -Resources Cost Element Skill Department Curve Units Linear A5C SUPPLIES 0000 NONE SA01S SSOC 371 Closure Project 2.537.50 Dollars Factors 2500 Misc 1.015 -- FY00 Escalation A5T TAXES 0000 NONE SA01S SSOC 371 Closure Project 96.43 Dollars Linear Factors 2500 \$ 3.8% Sales Tax 1.015 -- FY00 Escalation --0.038 Line Item 16 - Metrology of Scale & Torque Wrench Benchmark Source - Metrology Lab and Operations Project Lead BOE Benchmark Item Desc - Metrology of Operation Equipment Breakdown of Benchmark Data: Item - 1 Scale (1/vr), 2 Torque Wrenches (1/vr=2), 6 Alpha Mets (weekly=312), Gram Estimator (daily=260) Units - 575 calibrations/yr Unit Cost - 2 hours per calibration Resources Cost Element Department Curve Ouantity Units T070 MAINT, TECHS. (INSTRUMENT TEC KA20H 371/374 Facility Mamt Steelworkers 1.150.00 Hours 750 STRAIGHT TIME BASE Linear Factors 575 Calibrations 2 hrs/calibration Line Item A - Maintenance Planner Routine GB Maintenance. BOE RCT time is budgeted in operations. Cost Flement Resources A57 LATA P070 COST ESTIMATORS PLANNERS AN SA01S SSOC 371 Closure Project Linear 51.840.00 Dollars Planner 60 hours/mo 12 mo/vear 72 \$/hour Factors A58 ASI 0000 NONE SA01S SSOC 371 Closure Project 3.000.00 Dollars Linear Factors 3000 Dollars/Year Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Department Curve Ouantity Units CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 4 909 33 Dollars Factors 4909.33 Dollars ESC ESCALATION ZDEPT No Department 2 200 22 Dollars 0000 NONE Linear 2200.22 Dollars Factors Activity ID: 1AW351539C Description: FY00 Glovebox32 Administrative Preps. Cost Risk 2 Schedule Risk BOE Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Line Item Description Quantity Units Labor Burden Cost Total Cost Type Hours/Unit Total Total Cost & Escalation Cost Admin Prep 0.12 each BM 227 27 1,074 1,546 0 2,620 524 3,144 Total for Activity 1AW351539C: 27 1.074 1,546 0 2,620 524 3,144

Line Item 01 - Admin Prep

BOF

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1AAG Activity Filter *

Starts In FY

Activity ID:

WBS No:

1AAG

1AW351539C

2.2 - Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Modified on 1/14/00 by the Flourides Project Manager to reflect a change in receiver sites.

- 1) Benchmark Item Desc ALARA and BIO Review Scope: An As Low As Reasonably Achievable (ALARA) review will be required for the strip out and cleaning of the glove box and room 3515. Also, glove box 32 will be tested to determine the amount of radiation being given off in order to support the ALARA and construction activities.
- Assumptions: No project design or scope change will effect this effort once complete. It is also assumed that no modifications to the BIO will be necessary.

Breakdown of Benchmark Data: Item - ALARA and BIO Units - Manhours and Dollars

Breakdown of Benchmark Data:

Unit Cost - Due to the dose intensive nature of this material, a significant effort will be required to address the Radiological issues for the Fluoride project. An ALARA review will be required for the project, a in-progress ALARA review will be required, and an RWP will be required for this process. Radiological Engineering will also be required for all engineering designs, all procedures, and for shipping issues. The estimate includes 1/2 FTE for an Omega subcontractor, and 1/4 of an FTE for B371 Radiological engineering both for the ALARA effort.

Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A

2.4 - Benchmark Item Desc - NMSL Scope: The Fluoride Packaging will require Nuclear Material Safety Limits (NMSL's) to be completed prior to operations. These will cover staging, processing, bag-out, in-room storage, vault storage, material movement, NDA count activities, and shipment preparation.

Item - NMSL
Units - Manhours and Dollars
Unit Cost - The project will require NMSL's for the
- GB operation itself (280 hrs), Criticality Engineering
- The work bench (160 hrs), Criticality Engineering
- The transfer cart (200 hrs), Criticality Engineering
- The wall pass thru (160 hrs), Criticality Engineering
- Storage of the transfer cart in both 3513 and the building vault (200 hrs), Criticality Engineering
- Its placement into the POC (240 hrs), Criticality Engineering.
- Misc support, 120 hrs, Criticality engineering.
- 40 hours for a material move NMSL
- 40 hours for a bag-out NMSL
Total Criticality Engineering support = 1440 hrs.

- B371 Criticality Safety Officer, 1/6 FTE to NMSL's, procedure review, develop/maintain postings.

- 1/6 FTE for Radiological Engineering subcontractor (Omega)

Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A

- 2.6 Benchmark Item Desc USQD of Procedures Scope: Three reviews of the project for USQD's (an Unreviewed Safety Question Determination) are necessary as the Authorization Basis for performing the Fluoride repackaging work. One will be performed for the staging, movement, and handling of the material, one for the processing of the material, and one to address hold-up issues.
- Assumptions: No design or scope change will require a revised or new USQD.

Breakdown of Benchmark Data:
Item - USQD
Units - Manhours and Dollars
Unit Cost - 1 H&S FTE for 1000 hours.
Unit Cost Adjustment factor - N/A
Revised Unit Cost - N/A
Basis for adjustment - N/A

- 2.7 Benchmark Item Desc JHA of operations Scope:
- Assumptions: No design or scope change will require a revised or new JHA.

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Proiect Baseline Devl WBS Filter 1AAG Activity Filter *

Starts In FY

```
Breakdown of Benchmark Data:
Item - JHA
Units - Manhours and Dollars
 Unit Cost - 1 H&S FTE for 1000 hours.
 Unit Cost Adjustment factor - N/A
 Revised Unit Cost - N/A
Basis for adjustment - N/A
2.9 - Benchmark Item Desc - ACE of operations Scope:
 Assumptions: No design or scope change will require a revised or new ACE.
Breakdown of Benchmark Data:
Item - ACE
Units - Manhours and Dollars
Unit Cost - 6 FTEs for 3 weeks at 40 hours each.
Unit Cost Adjustment factor - N/A
Revised Unit Cost - N/A
Basis for adjustment - N/A
5.1 - Benchmark Item Desc - Operations hiring Scope: 14 operators and 2 foreman comprising the crew will be needed for the repackaging of Fluorides. 14
operators will be hired for the repackaging of Fluorides.
- Assumptions: It is assumed that the 14 operators and 2 foreman that are needed can be identified, hired, trained, and receive the necessary security
clearances within the time frame necessary to meet the proposed schedule. It is assumed that the timing of the operator hiring will match the proposed
schedule sequencing. Because of this, the estimate does not include funding to support the operators after the general training but prior to procedure V&V,
job specific training, and operations. Also, it is assumed that any costs in excess of those listed in the cost estimate associated with hiring, training,
and security clearances will be covered from another funding source.
Breakdown of Benchmark Data:
Item - Operations Hiring
Units - Manhours and Dollars
Unit Cost - 14 operators (process specialists and risk reduction techs) for 1,850
   hours each. Includes hiring, general training, and Q-clearance.
 Unit Cost Adjustment factor - N/A
 Revised Unit Cost - N/A
Basis for adjustment - N/A
5.1 - Benchmark Item Desc - Operations hiring Scope: 4 operators will be needed for the repackaging of Fluorides to replace operators lost to attrition. 14
operators total are necessary for the repackaging of Fluorides.
 Assumptions: It is assumed that the 4 operators that are needed can be identified, hired, trained, and receive the necessary security clearances within
the time frame necessary to meet the proposed schedule. It is assumed that the timing of the operator hiring will match the proposed schedule sequencing.
Because of this, the estimate does not include funding to support the operators after the general training but prior to procedure V&V, job specific training,
and operations. Also, it is assumed that any costs in excess of those listed in the cost estimate associated with hiring, training, and security clearances
will be covered from another funding source.
Breakdown of Benchmark Data:
Item - Operations Hiring
Units - Manhours and Dollars
Unit Cost - 4 operators (process specialists and risk reduction techs) for 1,650
   hours each. Includes hiring, general training, and Q-clearance.
 Unit Cost Adjustment factor - N/A
Revised Unit Cost - N/A
Basis for adjustment - N/A
5.2 - Benchmark Item Desc - Procedure Development Scope: A procedure will be developed for the Fluoride Repackaging effort. This procedure will be utilized
during operations. Also, it is assumed that no building procedures will require modification in support of fluoride repackaging.
 Assumptions: Once finalized, the procedures will require only minor modifications.
Breakdown of Benchmark Data:
Item - Procedure Development
Units - Manhours and Dollars
Unit Cost - The repackaging procedure will require four days for each of 16 review groups as follows: Crit Eng, Fire Protection, Industrial Hygiene &
Safety, Nuc. Safety, Quality Assurance, Rad Eng, Nuc. Mat. Safeguards, Closure Projects, Traffic Mgmt, Waste Cer. & Oversight, Special Nuclear Material
Project, TRU Waste Programs, Rad. Ops., B371 Mgmt, B371 Eng, Wet Combustible Operations. Additionally, one technical editor for 600 hours is required.
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 WBS No:
 1AAG
 Rockv Flats C

 Activity ID:
 1AW351539C
 Baseline Cost and

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1AAG Activity Filter *

Starts In FY

Unit Cost Adjustment factor - N/A
Revised Unit Cost - N/A
Basis for adjustment - N/A
5.3 - NEPA, PCP, RCRA

Resources

Г								
es		Cost Element		Skill		Department	Curve	Ouantity Units
Į	750 STRAIGH	HT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	80.00 Hours
	Factors 80	hrs		. 1				
Į	750 STRAIGH	HT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	147.00 Hours
	Factors 147	hrs		. 1				
Į	750 STRAIGH	HT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	0.00 Hours
	Factors 7400	Hours		0 Budget in Repack				
Į	750 STRAIGH	HT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	0.00 Hours
	Factors 12950	hrs		0 Budget in Repack				
Į	A57 LATA		E130	OTHER ENGINEERS	KA10S	B371 ESH&Q	Linear	12.933.00 Dollars
	40000	•		4				

Factors 12933 \$

Activity ID: 1AW351549A

Description: FY00 GB32 V&V Procedures/Training & MR

Cost Risk 2 Schedule Risk

4

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours		Materials/ Sub	0 2	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
1AG351549A	Training/Qualifications & Procedure V&V	0.30	ea	ВМ	1.920	574	11.656	5.649	0	17.305	5.688	22.993
1AG351549B	MR Prep	0.30	each	BM	2.220	664	27.558	0	0	27.558	13.448	41.006
1AG351559C	Resolve MR Issues	0.30	each	ВМ	1.180	353	7.512	0	0	7.512	3.666	11.178
A1G351559B	Fluorides MR	0.30	each	ВМ	1.120	335	6.799	0	0	6.799	3.318	10.117
	Tot	tal for Activity 1AW351549A:				1.925	53.525	5.649	0	59.174	26.120	85.294

Line Item 1AG351549A - Training/Qualifications & Procedure V&V

BOE

Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98.

Benchmark Item Desc -

Breakdown of Benchmark Data:

Item -

Units - Manhours and Dollars

Unit Cost -

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A

Basis for adjustment - N/A

5.3 - Training and Qualifications: Estimate Basis: The training and qualification of operators will require 20 operators and 2 foreman for 22 days. In addition, time has been included for trainers to support this activity. Overtime has also been included for the operators. Additional support will be provided by the project team under the project management activity.

Assumptions: It is assumed that the training and qualification phase can be complete within this 22 day time frame.

5.8 - Procedure V&V Estimate Basis: The V&V of the procedure will require 14 operators and 2 foreman 3 weeks to complete. Overtime has also been included for the operators. Additional support will be provided by the project team under the project management activity.

Assumptions: It is assumed that the V&V process can be completed within the 22 day time frame. It is assumed that there will be minimal support required from other organizations.

Resources

S Cost Element	Skill	Department	Curve	Quantity Units
750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATO	R (KA40H 371 Wet Combustibles Steelworkers	Linear	1.080.00 Hours
Factors 1080 hrs	1			
750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATO	R (KA40H 371 Wet Combustibles Steelworkers	Linear	840.00 Hours
Factors 840 Hours	1			
A57 LATA	0000 NONE	KA10S B371 ESH&Q	Linear	18.900.00 Dollars
Factors 189 hrs	100 LATA Trainers			

Line Item 1AG351549B - MR Prep

BOE MR Prep Labor & Supplies:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

WBS Filter 1AAG Activity Filter

Proiect

Starts In FY *

Baseline Devl

Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, Estimate modified on 1/17/00 by the Flourides Project Manager to reflect a change in the receiver site. Benchmark Item Desc -

Breakdown of Benchmark Data: Item -Units - Manhours and Dollars Unit Cost -Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A Basis for adjustment - N/A

01 - MR Estimate Basis: Coverage for 20 operators (process specialists and risk reduction techs) and two foreman for 2 weeks or MR Prep.

5.6B - MR Dry Run Estimate Basis: Coverage for an eight person MR team and estimated time and costs are sufficient to meet the requirements for the MR Dry

Resources

WBS No:

Activity ID:

1AAG

1AW351549A

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s	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	40.00 Hours
Factors	40 hrs		. 1				
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	1.800.00 Hours
Factors	1800 hrs		. 1				
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	KA10S	B371 ESH&Q	Linear	320.00 Hours
Factors	320 hrs		1 Other Engr				
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	KA10S	B371 ESH&Q	Linear	60.00 Hours
Factors	60 hrs		1 Rad Engr				

Line Item 1AG351559C - Resolve MR Issues

BOE

Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Estimate modified on 1/17/00 by the Flourides Project Manager to reflect a change in the receiver site. Benchmark Item Desc -

Breakdown of Benchmark Data: Item -

Units - Manhours and Dollars

Unit Cost -

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A Basis for adjustment - N/A

Resolve MR Issues Estimate Basis: Coverage of Ops/Roreman Labor, Procedure Development, Review Team labor, and Additional Review Team Labor are sufficient to cover the MR.

Resources

es		Cost Element		Skill		Department	Curve	Quantity Units
L	750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	20.00 Hours
1	Factors .	20 hrs		. 1				, , , , , , , , , , , , , , , , , , , ,
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	40.00 Hours
1	Factors	40 hrs		1				
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	1.120.00 Hours
1	Factors	1120 hrs		1				

Line Item A1G351559B - Fluorides MR

BOE

Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Estimate modified on 1/17/00 by the Flourides Project Manager to reflect a change in the receiver site. Benchmark Item Desc -

Breakdown of Benchmark Data:

Item -

Units - Manhours and Dollars

Unit Cost -

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A

Basis for adjustment - N/A

01a, 5.6a, 5.6b; MR Operators, Foreman, Review Team and Addt'l Review Team Labor Estimate Basis: Coverage for a 14-person crew and 2 foreman and a multi-

Page 45 of 59 6/22/00 8:54:40 PM OFFICIAL USE ONLY WBS No: 1AAG Activity ID: 1AW351549A **Baseline Cost and Basis of Estimate**

Baseline Devl Project **Rocky Flats Closure Project** WBS Filter 1AAG Activity Filter

discipline review team for 2 weeks are sufficient to cover the MR.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	1.120.00	Hours

Factors 1120 Activity ID: 1AW351549C Description: FY01 Glovebox32 Administrative Preps. Cost Risk 2 Schedule Risk

		Description: 1 To 1 Glove Description		•					Cost History	2 Schedule Han			
	Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
					Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
	01	Admin Prep	0.18	each	ВМ	227	41	1.611	16.796	0	18.407	768	19.175
	SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.025	1.025	0	1.025
Total for Activity 1AW351549C:							41	1 611	16 796	1 025	19 432	768	20 200

Line Item 01 - Admin Prep

BOE

2.2 - Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Modified on 1/14/00 by the Flourides Project Manager to reflect a change in receiver sites.

1) Benchmark Item Desc - ALARA and BIO Review Scope: An As Low As Reasonably Achievable (ALARA) review will be required for the strip out and cleaning of the glove box and room 3515. Also, glove box 32 will be tested to determine the amount of radiation being given off in order to support the ALARA and construction activities.

- Assumptions: No project design or scope change will effect this effort once complete. It is also assumed that no modifications to the BIO will be

Breakdown of Benchmark Data:

Item - ALARA and BIO

Units - Manhours and Dollars

Unit Cost - Due to the dose intensive nature of this material, a significant effort will be required to address the Radiological issues for the Fluoride project. An ALARA review will be required for the project, a in-progress ALARA review will be required, and an RWP will be required for this process. Radiological Engineering will also be required for all engineering designs, all procedures, and for shipping issues. The estimate includes 1/2 FTE for an Omega subcontractor, and 1/4 of an FTE for B371 Radiological engineering both for the ALARA effort.

Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A

Basis for adjustment - N/A

2.4 - Benchmark Item Desc - NMSL Scope: The Fluoride Packaging will require Nuclear Material Safety Limits (NMSL's) to be completed prior to operations. These will cover staging, processing, bag-out, in-room storage, vault storage, material movement, NDA count activities, and shipment preparation.

Breakdown of Benchmark Data:

Item - NMSL

Units - Manhours and Dollars

Unit Cost - The project will require NMSL's for the

- GB operation itself (280 hrs), Criticality Engineering
- The work bench (160 hrs), Criticality Engineering
- The transfer cart (200 hrs), Criticality Engineering
- The wall pass thru (160 hrs), Criticality Engineering
- Storage of the transfer cart in both 3513 and the building vault (200 hrs), Criticality Engineering
- Its placement into the POC (240 hrs), Criticality Engineering.
- Misc support, 120 hrs, Criticality engineering.
- 40 hours for a material move NMSL
- 40 hours for a bag-out NMSL

Total Criticality Engineering support = 1440 hrs.

- B371 Criticality Safety Officer, 1/6 FTE to NMSL's, procedure review, develop/maintain postings.
- 1/6 FTE for Radiological Engineering subcontractor (Omega)

Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A

2.6 - Benchmark Item Desc - USQD of Procedures Scope: Three reviews of the project for USQD's (an Unreviewed Safety Question Determination) are necessary as the Authorization Basis for performing the Fluoride repackaging work. One will be performed for the staging, movement, and handling of the material, one for the processing of the material, and one to address hold-up issues.

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Starts In FY

- Assumptions: No design or scope change will require a revised or new USQD.

Proiect WBS Filter Activity Filter Baseline Devl

1AAG

Starts In FY *

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Breakdown of Benchmark Data:
Item - USOD
 Units - Manhours and Dollars
Unit Cost - 1 H&S FTE for 1000 hours.
Unit Cost Adjustment factor - N/A
Revised Unit Cost - N/A
Basis for adjustment - N/A
2.7 - Benchmark Item Desc - JHA of operations Scope:
 Assumptions: No design or scope change will require a revised or new JHA.
Breakdown of Benchmark Data:
Item - JHA
Units - Manhours and Dollars
Unit Cost - 1 H&S FTE for 1000 hours.
Unit Cost Adjustment factor - N/A
Revised Unit Cost - N/A
Basis for adjustment - N/A
2.9 - Benchmark Item Desc - ACE of operations Scope:
 Assumptions: No design or scope change will require a revised or new ACE.
Breakdown of Benchmark Data:
Item - ACE
Units - Manhours and Dollars
Unit Cost - 6 FTEs for 3 weeks at 40 hours each.
Unit Cost Adjustment factor - N/A
Revised Unit Cost - N/A
Basis for adjustment - N/A
5.1 - Benchmark Item Desc - Operations hiring Scope: 14 operators and 2 foreman comprising the crew will be needed for the repackaging of Fluorides. 14
operators will be hired for the repackaging of Fluorides.
- Assumptions: It is assumed that the 14 operators and 2 foreman that are needed can be identified, hired, trained, and receive the necessary security
clearances within the time frame necessary to meet the proposed schedule. It is assumed that the timing of the operator hiring will match the proposed
schedule sequencing. Because of this, the estimate does not include funding to support the operators after the general training but prior to procedure V&V,
job specific training, and operations. Also, it is assumed that any costs in excess of those listed in the cost estimate associated with hiring, training,
and security clearances will be covered from another funding source.
Breakdown of Benchmark Data:
Item - Operations Hiring
 Units - Manhours and Dollars
Unit Cost - 14 operators (process specialists and risk reduction techs) for 1,850
   hours each. Includes hiring, general training, and Q-clearance.
 Unit Cost Adjustment factor - N/A
 Revised Unit Cost - N/A
Basis for adjustment - N/A
5.1 - Benchmark Item Desc - Operations hiring Scope: 4 operators will be needed for the repackaging of Fluorides to replace operators lost to attrition. 14
operators total are necessary for the repackaging of Fluorides.
- Assumptions: It is assumed that the 4 operators that are needed can be identified, hired, trained, and receive the necessary security clearances within
the time frame necessary to meet the proposed schedule. It is assumed that the timing of the operator hiring will match the proposed schedule sequencing.
Because of this, the estimate does not include funding to support the operators after the general training but prior to procedure V&V, job specific training,
and operations. Also, it is assumed that any costs in excess of those listed in the cost estimate associated with hiring, training, and security clearances
will be covered from another funding source.
Breakdown of Benchmark Data:
Item - Operations Hiring
 Units - Manhours and Dollars
Unit Cost - 4 operators (process specialists and risk reduction techs) for 1,650
   hours each. Includes hiring, general training, and Q-clearance.
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WBS No: 1AAG
Activity ID: 1AW351549C

Rockv Flats Closure Proiect
Baseline Cost and Basis of Estimate

Proiect Proiect Baseline Devl WBS Filter 1AAG

Activity Filter *

Starts In FY *

Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A

5.2 - Benchmark Item Desc - Procedure Development Scope: A procedure will be developed for the Fluoride Repackaging effort. This procedure will be utilized during operations. Also, it is assumed that no building procedures will require modification in support of fluoride repackaging.

- Assumptions: Once finalized, the procedures will require only minor modifications.

Breakdown of Benchmark Data: Item - Procedure Development Units - Manhours and Dollars

Unit Cost - The repackaging procedure will require four days for each of 16 review groups as follows: Crit Eng, Fire Protection, Industrial Hygiene & Safety, Nuc. Safety, Quality Assurance, Rad Eng, Nuc. Mat. Safeguards, Closure Projects, Traffic Mgmt, Waste Cer. & Oversight, Special Nuclear Material Project, TRU Waste Programs, Rad. Ops., B371 Mgmt, B371 Eng, Wet Combustible Operations. Additionally, one technical editor for 600 hours is required. Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A Basis for adjustment - N/A

5.3 - NEPA, PCP, RCRA

Resources

S Cost Element	Skill	Department	Curve	Ouantity Units
750 STRAIGHT TIME BASE	E070 MECHANICAL ENGINEERS	SA01S SSOC 371 Closure Project	Linear	80.00 Hours
Factors 80 hrs	1			
750 STRAIGHT TIME BASE	E080 NUCLEAR (CRITICALITY) ENGINEE	ER SA01S SSOC 371 Closure Proiect	Linear	147.00 Hours
Factors 147 hrs	1			
750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR	(KA40H 371 Wet Combustibles Steelworkers	Linear	0.00 Hours
Factors 7400 Hours	0 Budget in Repack			
750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR	(KA40H 371 Wet Combustibles Steelworkers	Linear	0.00 Hours
Factors 12950 hrs	0 Budget in Repack			
A57 LATA	E130 OTHER ENGINEERS	KA10S B371 ESH&Q	Linear	12.933.00 Dollars
Factors 12933 \$	1			
A5H SUBCONTRACTED SRVS	E120 SAFETY ENGINEERS	KA10S B371 ESH&Q	Linear	42.000.00 Dollars
Factors 42000 \$	1			
A5H SUBCONTRACTED SRVS	E130 OTHER ENGINEERS	KA10S B371 ESH&Q	Linear	38.720.00 Dollars
Factors 38720 \$	1			

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	622.23 [Dollars
	Factors	622.228 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	403.21	Dollars

Factors 403.208 Dollars

Activity ID: 1AW	B51569A Description: FY01	1 GB32 V&V Procedures/Training	Cost Risk	2 Schedule R	isk 4						
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
01	Training/Qualifications & Procedure V&V	0.30	ea	ВМ	3.930	1.175	25.575	5.649	0	31.225	12.199	43.424
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.322	2.322	0	2.322
·	Tot	al for Activi	ty 1AW35156	69A:		1.175	25.575	5.649	2.322	33.547	12.199	45.746

Line Item 01 - Training/Qualifications & Procedure V&V

BOE

Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98.

Benchmark Item Desc -

Breakdown of Benchmark Data: Item -

Units - Manhours and Dollars

Unit Cost -Unit Cost Adjustment factor - N/A

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WBS No: 1AAG 1AW351569A Activity ID:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Project Baseline Devl 1AAG WBS Filter Activity Filter

Starts In FY

Revised Unit Cost - N/A Basis for adjustment - N/A

Training and Qualifications: Estimate Basis: The training and qualification of operators will require 20 operators and 2 foremen for 22 days. In addition, time has been included for trainers to support this activity. Overtime has also been included for the operators. Additional support will be provided by the project team under the project management activity.

Assumptions: It is assumed that the training and qualification phase can be complete within this 22 day time frame.

Resources

es	Co	st Element		Skill		Department	Curve	Ouantity Units
	750 STRAIGHT	TIME BASE N	M010 F0	OREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	240.00 Hours
	Factors 240	hrs		1				
	750 STRAIGHT	TIME BASE F	R010 CI	HEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	3.366.00 Hours
	Factors 17	Operators		22 davs		9 hours/dav		
Į	751 OVERTIME	BASE & PRE.	M010 F0	OREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	24.00 Hours
	Factors 24	hrs		1		T		
Į	751 OVERTIME	BASE & PRE.	R010 CI	HEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	216.00 Hours
	Factors 216	hrs		1		T		
Į	751 OVERTIME	BASE & PRE.	R010 CI	HEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	84.00 Hours
	Factors 84	hrs		1		T		
	A57 LATA		0000 N	ONE	KA10S	B371 ESH&Q	Linear	18.900.00 Dollars
	Factors 18000	•		1 LATA Proc Writer				

LATA Proc Writer

Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.409.11	Dollars
Factor:	1409.11 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	913.11	Dollars

Factors 913.112 Dollars

Activity

/ ID·	1AW351571A	Description: FY00 Fluorides GB 32 Repack Operations/Mtce

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Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost						
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost								
1AG351560A	FY00 Transport/Stage for Repack	11.57	wk	HC	246	2.843	77.639	21.141	0	98.780	37.774	136.554						
1AG3515702	FY00 GB32 Repack-101 Cans	11.57	wk	HC	608	7.036	152.482	115.716	0	268.198	74.188	342.386						
1AG351570D	FY00 NMH&P Support	11.57	wk	HC	40	463	12.780	0	0	12.780	6.218	18.997						
Mtce	Maintenance Planning	11.57 wk		11.57 wk		11.57 wk		11.57 wk		HC	28	319	12.143	12.122	0	24.265	5.908	30.173
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.565	3.565	0	3.565						
	To	tal for Activi	tv 1AW3515	71A:		10.661	255.043	148.979	3.565	407.587	124.087	531.675						

Line Item 1AG351560A - FY00 Transport/Stage for Repack

BOE

Staging Fluorides in CSV Estimate Basis: The estimate includes funding for moving any fluorides that do not currently reside in 371. It is assumed that most of the fluoride material was identified and moved previously. Some funding is being included to account for the movement of any remaining Fluorides discovered during the life of this project. The FY01 and 02 estimate is planned to be 10% of the baseline costs.

Assumptions: It is assumed that the transfer of material from other buildings can be made in a timely manner with minimal interference. It is also assumed that moving the material into the CSV will not result in more than 15 drums of waste (assumes that the 10 gallon containers can be free released) and that the cost per drum will not exceed \$5,000.

Resource

ces		Cost Element		Skill		Department	Curve	Quantity Units
	750 STRAIG	SHT TIME BASE	E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	14.40 Hours
	Factors 14.4	hrs						
	750 STRAIG	SHT TIME BASE	E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	1.08 Hours
	Factors 1.08	hrs						
	750 STRAIG	HT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	0.72 Hours
	Factors 0.72	hrs						
	750 STRAIG	HT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	135.00 Hours
	Factors 135	hrs						

WBS No: 1AAG Project Baseline Devl **Rocky Flats Closure Project** 1AW351571A 1AAG Activity ID: WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 9.00 Hours 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP R100S RMRS Salaried Linear Factors hrs P140 SAFEGUARDS AND OTHER SECURI SA01S SSOC 371 Closure Project 750 STRAIGHT TIME BASE 40.50 Hours Linear 40.5 hrs 750 STRAIGHT TIME BASE P140 SAFEGUARDS AND OTHER SECURI SA01S SSOC 371 Closure Project Linear 22.50 Hours Factors 22.5 hrs 750 STRAIGHT TIME BASE P140 SAFEGUARDS AND OTHER SECURI W102S Operations/Training Linear 22.50 Hours Factors 22.5 hrs A52 TENERA 0000 NONE SA01S SSOC 371 Closure Project 1.826.97 Dollars Linear Factors 1826.97 Dollars Line Item 1AG3515702 - FY00 GB32 Repack-101 Cans Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 14 operators and 2 Foreman per week of processing. BOE Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum. Cost Element Quantity Units Resources Department Curve 750 STRAIGHT TIME BASE C080 PLUMBERS AND PIPEFITTERS KA20H 371/374 Facility Mgmt Steelworkers Linear 0.00 Hours 50 hrs/wk-shft 0 shifts SA01S SSOC 371 Closure Project 750 STRAIGHT TIME BASE ENVIRONMENTAL ENGINEERS Linear 0.00 Hours 10 hrs/wk-shft Factors shifts 750 STRAIGHT TIME BASE E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project 0.00 Hours Linear 100 hrs/wk-shft shifts 750 STRAIGHT TIME BASE COMPLIANCE INSPECTORS SA01S SSOC 371 Closure Project 0.00 Hours Linear 20 hrs/wk-shft shifts Factors 750 STRAIGHT TIME BASE COST ESTIMATORS PLANNERS AN | SA01S | SSOC 371 Closure Project Linear 0.00 Hours hrs/wk-shft shifts 750 STRAIGHT TIME BASE P140 SAFEGUARDS AND OTHER SECURI SA01S SSOC 371 Closure Project 160.00 Hours Linear Factors 80 hrs/wk-shft s126s/t110 750 STRAIGHT TIME BASE P170 OTHER ADMINISTRATIVE & PROFE 0.00 Hours SA01S SSOC 371 Closure Project Linear 20 hrs/wk-shft shifts Factors R010 CHEMICAL SYSTEMS OPERATOR (448.00 Hours 750 STRAIGHT TIME BASE KA40H 371 Wet Combustibles Steelworkers Linear Factors 35 hrs/wk 2 shifts st ons/shift 0.8 time on other activities SA01S SSOC 371 Closure Project 10.000.00 Dollars A5C SUPPLIES 0000 NONE Linear 10000 \$/drum-shft Factors 1 shifts Line Item 1AG351570D - FY00 NMH&P Support Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 2 NMH&P personnel per week of processing. BOE Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum. Cost Element Quantity Units Resources Skill Department Curve 750 STRAIGHT TIME BASE M010 FOREMEN / TEAM LEADS / GROUP SA01S SSOC 371 Closure Project Linear 40.00 Hours hrs/wk-shft NMH&P Frmn R010 CHEMICAL SYSTEMS OPERATOR (KF10H Matl Steward Steel Workers 0.00 Hours STRAIGHT TIME BASE Linear NMH&P Op Factors 40 hrs/wk-shft 2 shifts 5/31 M.S. Dbl Bdat Line Item Mtce - Maintenance Planning Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 50 hours per week of processing to cover 2 maintenance tasks a month at 100 BOE hours per task. Cost Element Skill Resources Department Curve Units 750 STRAIGHT TIME BASE MECHANICAL ENGINEERS SA01S SSOC 371 Closure Project E070 13.80 Hours Linear Factors 60 hours/mo 0.23 mo/wk 750 STRAIGHT TIME BASE E080 NUCLEAR (CRITICALITY) ENGINEER SA01S SSOC 371 Closure Project 13.80 Hours Linear Factors 60 hours/mo 0.23 mo/wk

WBS No: 1AAG Activity ID: 1AW351571A

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Baseline Devl 1AAG

								Activity Filter	*	Starts In FY
A57	LATA		P070	COST ES	STIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project		Linear	993.60 Dollars
Factors	1	Planner		60	hours/mo		0.23 mo/wk		72 \$/hour	
A58	ASI		0000	NONE		SA01S	SSOC 371 Closure Project		Linear	54.00 Dollars
Factors	12	Dollars/Day		4.5	day/week					

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2.090.74	Dollars
F	actors	2090.74 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.473.85	Dollars

Factors 1473.85 Dollars

Activity ID: 1AW351571B Description: FY01 Fluorides GB 32 Repack Operations/Mtce. Cost Risk 2 Schedule Risk

ACTIVITY DE L'ANTOCION DE SCHIPTON. I TOTT INDINGES OB 32 REPARA OPERATIONS/WINCE.												
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
1AG351561A	FY01 Transport/Stage for Repack	48.22	wk	BM	481	23.216	637.396	420.965	0	1.058.361	290.815	1.349.177
1AG351570B	Prep for Fluorides Repack Operations	1.93	wk	BM	752	1.450	33.275	0	0	33.275	15.182	48.457
1AG3515711	FY01 GB32 Repack-540 Cans	48.22	wk	BM	886	42.718	1.008.347	482.150	0	1.490.497	460.063	1.950.561
1AG351571C	FY01 Lab Sampling	0.96	ea	BM	0	0	0	76.662	0	76.662	0	76.662
1AG351571D	FY01 NMH&P Support	48.22	wk	BM	40	1.929	53.249	0	0	53.249	24.295	77.544
1AG351581A	FY01 Shipping Support	6.75	each	BM	0	0	0	0	0	0	0	0
Mtce.	Maintenance Planning	48.22	wk	BM	28	1.331	50.595	50.510	0	101.105	23.084	124.189
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	239.316	239.316	0	239.316
	To	tal for Activit	y 1AW3515	71B:		70.644	1.782.862	1.030.287	239.316	3.052.465	813.439	3.865.904

Line Item 1AG351561A - FY01 Transport/Stage for Repack

BOE

Staging Fluorides in CSV Estimate Basis: The estimate includes funding for moving any fluorides that do not currently reside in 371. It is assumed that most of the fluoride material was identified and moved previously. Some funding is being included to account for the movement of any remaining Fluorides discovered during the life of this project. The FY01 and 02 estimate is planned to be 10% of the baseline costs.

Assumptions: It is assumed that the transfer of material from other buildings can be made in a timely manner with minimal interference. It is also assumed that moving the material into the CSV will not result in more than 15 drums of waste (assumes that the 10 gallon containers can be free released) and that the cost per drum will not exceed \$5,000.

Resources

s	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	1.08 Hours
Factors	1.08 hrs						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	14.40 Hours
Factors	14.4 hrs						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	0.72 Hours
Factors	0.72 hrs		1				
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	135.00 Hours
Factors	135 hrs						
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	9.00 Hours
Factors	9 hrs		1		1		
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	234.00 Hours
Factors	234 hrs		1				
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Proiect	Linear	1.80 Hours
Factors	1.8 hrs		1				
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Proiect	Linear	40.50 Hours
Factors	40.5 hrs		1				
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Proiect	Linear	22.50 Hours
Factors	22.5 hrs		I		<u> </u>		
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	W102S	Operations/Training	Linear	22.50 Hours
<u>Factors</u>	22.5 hrs						

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WBS No: 1AAG Project Baseline Devl **Rocky Flats Closure Project** 1AW351571B WBS Filter 1AAG Activity ID: **Baseline Cost and Basis of Estimate** Activity Filter

			baseline Cost an	iu basis	or Estimate	Activity Filter	*	Starts In FY *
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KF10H	Matl Steward Steel Workers		Linear	0.00 Hours
Factors	22.5 hrs		0 5/31 M.S. Dbl Bdat					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KF10H	Matl Steward Steel Workers		Linear	0.00 Hours
Factors	8.1 hrs		0 5/31 M.S. Dbl Bdat					
A52	TENERA	0000	NONE	R100S	RMRS Salaried		Linear	6.904.00 Dollars
Factors	6904 \$							
A52	TENERA	0000	NONE	SA01S	SSOC 371 Closure Project		Linear	1.827.00 Dollars
Factors	1827 ¢							

1827

Line Item 1AG351570B - Prep for Fluorides Repack Operations

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 14 operators and 2 Foreman per week of processing.

Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources

s	Cost Element	Skill	Department	Curve	Quantity Units
L	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	80.00 Hours
j	Factors 40 hrs/wk	2 shifts	1 st frmn/shift		
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	560.00 Hours
j	Factors 35 hrs/wk	2 shifts	8 st ops/shift		
	751 OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	16.00 Hours
j	Factors 8 hrs/wk	2 shifts	1 ot frmn/shift		
	751 OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	96.00 Hours
1	Factors 6 hrs/wk	2 shifts	8 ot ops/shift		

shifts Factors 6 hrs/wk

Line Item 1AG3515711 - FY01 GB32 Repack-540 Cans

BOE

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 14 operators and 2 Foreman per week of processing.

Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources

es	Cost Element			Skill			Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E050	ENVIRON	MENTAL ENGINEERS	SA01S	SSOC 37	1 Closure Proiect	Linear	0.00 Hours
Factor	s 10 hrs/wk-shft		. 0	shifts					
750	STRAIGHT TIME BASE	E130	OTHER E	NGINEERS	SA01S	SSOC 37	1 Closure Proiect	Linear	0.00 Hours
Factor	s 100 hrs/wk-shft		. 0	shifts					
750	STRAIGHT TIME BASE	M010	FOREMEN	N / TEAM LEADS / GROUP	SA01S	SSOC 37	1 Closure Proiect	Linear	80.00 Hours
Factor	s 40 hrs/wk	1	2	shifts		1	st frmn/shift		
750	STRAIGHT TIME BASE	P050	COMPLIA	NCE INSPECTORS	SA01S	SSOC 37	1 Closure Proiect	Linear	0.00 Hours
Factor	s 20 hrs/wk-shft	1	0	shifts					
750	STRAIGHT TIME BASE	P070	COST EST	TIMATORS PLANNERS AN	SA01S	SSOC 37	1 Closure Proiect	Linear	0.00 Hours
Factor	s 8 hrs/wk-shft		0	shifts		1			
750	STRAIGHT TIME BASE	P140	SAFEGUA	RDS AND OTHER SECURI	SA01S	SSOC 37	1 Closure Proiect	Linear	160.00 Hours
Factor	s 80 hrs/wk-shft		2	shifts		1	s126s/t110		
750	STRAIGHT TIME BASE	P170	OTHER A	DMINISTRATIVE & PROFE	SA01S	SSOC 37	1 Closure Proiect	Linear	0.00 Hours
Factor	s 20 hrs/wk-shft		0	shifts					
750	STRAIGHT TIME BASE	R010	CHEMICA	L SYSTEMS OPERATOR (KA40H	371 Wet 0	Combustibles Steelworkers	Linear	525.00 Hours
Factor	s 35 hrs/wk		2	shifts		7.5	st ops/shift		
751	OVERTIME BASE & PRE.	M010	FOREMEN	N / TEAM LEADS / GROUP	SA01S	SSOC 37	1 Closure Proiect	Linear	16.00 Hours
Factor	s 8 hrs/wk		2	shifts		1	ot frmn/shift		
751	OVERTIME BASE & PRE.	R010	CHEMICA	L SYSTEMS OPERATOR (KA40H	371 Wet 0	Combustibles Steelworkers	Linear	105.00 Hours
Factor	1115/111		2	shifts			ot ops/shift		
A5C		0000	NONE		SA01S	SSOC 37	1 Closure Proiect	Linear	10.000.00 Dollars
Factor	s 10000 \$/drum-shft		1	shifts					

Line Item 1AG351571C - FY01 Lab Sampling

BOE

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 20 operators and 2 Foreman for a total of 20,572 hours and 2057 respectively. This includes a week for start up, a week for shut down, and 208 days for operations. In addition, the estimate includes 400 hours for waste WBS No: 1AAG **Rocky Flats Closure Project** Activity ID: 1AW351571B **Baseline Cost and Basis of Estimate**

Baseline Devl Project WBS Filter 1AAG

Activity Filter

Starts In FY

management support, 550 hours for maintenance, \$5,000 per drum for processing 104 waste drums, 2,000 hours for overtime, and 3000 hrs for 2 months for packaging support for 10 operators and 1 foreman.

Assumptions: It is assumed that operations can process 2 kg's per shift. A building availability factor of 75% was used in the calculations. Some of the material will require calcination, but will not prevent operations from processing 2 kg's day. It is also assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources

es	Cost Element		Skill	Department	Curve	Ouantity Units
	A5C SUPPLIES	0000 NONE	SA01S	SSOC 371 Closure Project	Linear	67.500.00 Dollars
	Factors 45 samples/shift	1500 \$/	S/sample			
	A5H SUBCONTRACTED SRVS	0000 NONE	SA01S	SSOC 371 Closure Project	Linear	12.000.00 Dollars
	Factors 120 hrs/shift	100 \$/	S/hr			

Line Item 1AG351571D - FY01 NMH&P Support

BOE

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 2 NMH&P personnel per week of processing.

Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources

es		Cost Element			Skill			Department		Curve	Ouantity	Units
	750	STRAIGHT TIME BAS	E M01	10 FOREMEN	N / TEAM LEADS / GROUP	SA01S	SSOC 3	71 Closure Proiect		Linear	40.00 H	lours
	Factors	20 hrs/wk-sh	ft	2	shifts		1	NMH&P Frmn				
	750	STRAIGHT TIME BAS	E R01	10 CHEMICA	L SYSTEMS OPERATOR (KF10H	Matl Ste	ward Steel Workers		Linear	0.00 ⊢	lours
	Factors	40 hrs/wk-sh	ft	2	shifts		2	NMH&P Op	0	5/31 M.S. DI	ol Bdat	

Line Item 1AG351581A - FY01 Shipping Support

BOE

6.3 Shipping: Shipment of material to WIPP is the responsibility of RMRS. Support for the shipment of packaged fluorides has been included to provide information on the packaging process (configuration, packaging schedule, specific problems encountered during processing, paperwork issues, etc.). The estimate includes

1/2 FTE for project support (a technical person in Wet group) for 14 weeks.

1 Forman and 3 operators for 14 weeks + 10% OT.

Assumptions: The shipment costs will not increase prior to initiating shipments.

Resources

es		Cost Element		Skill			Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEAD	OS / GROUP SAC	01S SSOC	371 Closure Proiect	Linear	0.001	Hours
j	Factors	40 hrs/wk-shft		0 shifts		1	st frmn/shft			
L	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS C	PERATOR (KF1	I0H Matl S	teward Steel Workers	Linear	0.00	Hours
نے	Factors	40 hrs/wk-shft		0 shifts		3	st ops/shft			
L	751	OVERTIME BASE & PRE	. M010	FOREMEN / TEAM LEAD	OS / GROUP SAC	01S SSOC	371 Closure Proiect	Linear	0.00	Hours
ن	Factors	4 hrs/wk-shft		0 shifts		1	st frmn/shft			
L	751	OVERTIME BASE & PRE	. R010	CHEMICAL SYSTEMS C	PERATOR (KF1	I0H Matl S	teward Steel Workers	Linear	0.00	Hours
	Factors	4 hrs/wk-shft		0 shifts		3	st ons/shft			

Line Item Mtce. - Maintenance Planning

BOE

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 50 hours per week of processing to cover 2 maintenance tasks a month at 100 hours per task.

Resources

s		Cost Element		Skill		Department	Curve	Ouantity Units
L	750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	13.80 Hours
ب	Factors	60 hours/mo		0.23 mo/wk				
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	13.80 Hours
į.	Factors	60 hours/mo		0.23 mo/wk				
	A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Proiect	Linear	993.60 Dollars
į.	Factors	1 Planner		60 hours/mo		0.23 mo/wk	72 \$/hour	
L	A58	ASI	0000	NONE	SA01S	SSOC 371 Closure Proiect	Linear	54.00 Dollars

Factors 12 Dollars/Day 4.5 day/week

Line Item SYS - Contingency And Escalation

BOE

WBS No: 1AAG
Rocky Flats Closure Project
Activity ID: 1AW351571B
Rocky Flats Closure Project
Baseline Cost and Basis of Estimate
WBS Filter
1AAG
1AAG

 Baseline Cost and Basis of Estimate
 Activity Filter
 *
 Starts In FY
 *

 Resources
 Con Contingency
 Skill
 Department
 Curve
 Quantity
 Units

 CON CONTINGENCY
 0000 NONE
 ZDEPT No Department
 Linear
 148.253.30 Dollars

Factors 148253 Dollars

ESC ESCALATION 0000 NONE ZDEPT No Department Linear 91,062,60 Dollars

Factors 91062.6 Dollars

Activity ID: 1AW351572A Description: FY02 Fluorides GB 32 Repack Operations/Mtce. Cost Risk 2 Schedule Risk BOE Labor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost Line Item Description **Ouantity** Type Hours/Unit **Total Total** Cost & Escalation Cost 482 220.922 1AG351562A FY02 Transport/Stage for Repack 16.71 wk BM 8.047 145.907 Λ 366.828 77.985 444.813 FY02 GB32 Repack-141 Cans 944 1AG3515722 16.71 wk BM 15.775 367.347 0 367.347 129.673 497.020 1AG351572C FY02 Lab Sampling 1.93 ea BM 0 0 153.324 0 153.324 0 153.324 1AG351572D FY02 NMH&P Support 16.71 wk BM 40 668 18.456 18.456 6.515 0 24.971 1AG351582A FY02 Shipping Support 6.75 each BM 0 0 0 0 Maintenance Planning Mtce. 16.71 wk BM 28 461 17.536 17.507 0 35.043 6.190 41.233 Contingency And Escalation FF 175.369 SYS 1.00 ea 0 0 175.369 175.369 0 Total for Activity 1AW351572A: 24.952 624.260 316.737 175.369 1.116.367 220.364 1.336.731

Line Item 1AG351562A - FY02 Transport/Stage for Repack

BOE

Staging Fluorides in CSV Estimate Basis: The estimate includes funding for moving any fluorides that do not currently reside in 371. It is assumed that most of the fluoride material was identified and moved previously. Some funding is being included to account for the movement of any remaining Fluorides discovered during the life of this project. The FY01 and 02 estimate is planned to be 10% of the baseline costs.

Assumptions: It is assumed that the transfer of material from other buildings can be made in a timely manner with minimal interference. It is also assumed that moving the material into the CSV will not result in more than 15 drums of waste (assumes that the 10 gallon containers can be free released) and that the cost per drum will not exceed \$5,000.

Resources

Cost Element	Skill	Department	Curve	Ouantity Units
750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	R100S RMRS Salaried	Linear	14.40 Hours
Factors 14.4 hrs				
750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	R100S RMRS Salaried	Linear	1.08 Hours
Factors 1.08 hrs				
750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	0.72 Hours
Factors 0.72 hrs				
750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROU	UP R100S RMRS Salaried	Linear	135.00 Hours
Factors 135 hrs	T		1	
750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROU	UP R100S RMRS Salaried	Linear	9.00 Hours
Factors 9 hrs	M010 FOREMEN / TEAM LEADS / GROU	UP SA01S SSOC 371 Closure Project	1	204.0011
750 STRAIGHT TIME BASE Factors 234 hrs	I M010 IFOREMEN / TEAM LEADS / GROU	UP SAU1S ISSUC 371 Closure Project	Linear	234.00 Hours
Factors 234 hrs 750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROU	UP SA01S SSOC 371 Closure Project	Linear	1.80 Hours
Factors 1.8 hrs	I WOTO II ONEWENT TEAW LEADS / GNO	DF SAUTS SSOC ST Closure Florect	Lilleal	1.00 Hours
750 STRAIGHT TIME BASE	P140 SAFEGUARDS AND OTHER SEC	URI SA01S SSOC 371 Closure Project	Linear	40.50 Hours
Factors 40.5 hrs		511		10100110310
750 STRAIGHT TIME BASE	P140 SAFEGUARDS AND OTHER SEC	URI SA01S SSOC 371 Closure Project	Linear	22.50 Hours
Factors 22.5 hrs				
750 STRAIGHT TIME BASE	P140 SAFEGUARDS AND OTHER SEC	URI W102S Operations/Training	Linear	22.50 Hours
Factors 22.5 hrs				
750 STRAIGHT TIME BASE		IGI KF10H Matl Steward Steel Workers	Linear	0.00 Hours
Factors 22.5 hrs	0 5/31 MS Dbl. Budaet		T	
750 STRAIGHT TIME BASE	T060 D&D HAZ REDUC TECH / RISK RI	ED KF10H Matl Steward Steel Workers	Linear	0.00 Hours
Factors 8.1 hrs	0 5/31 MS Dbl. Budaet			
A52 TENERA	0000 NONE	R100S RMRS Salaried	Linear	6.904.00 Dollars
Factors 6904 \$	L sace Jugue	0.000 0000 000 000 000 000 000 000 000		1 227 22 7 11
A52 TENERA	0000 NONE	SA01S SSOC 371 Closure Project	Linear	1.827.00 Dollars
Factors 1827 \$				

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Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl

Starts In FY

Line Item 1AG3515722 - FY02 GB32 Repack-141 Cans

1AAG

1AW351572A

BOE

WBS No:

Activity ID:

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 14 operators and 2 Foreman per week of processing.

Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources

es	Cost Element	Skill	Department	Curve	Ouantity Units
7	50 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	SA01S SSOC 371 Closure Project	Linear	0.00 Hours
Fac	tors 10 hrs/wk-shft	0 shifts		_	
_ 7	50 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	0.00 Hours
Fac	tors 100 hrs/wk-shft	0 shifts			
7	50 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	80.00 Hours
Fac	tors 40 hrs/wk-shft	2 shifts	1 st frmn/shft		
7	50 STRAIGHT TIME BASE	P050 COMPLIANCE INSPECTORS	SA01S SSOC 371 Closure Project	Linear	0.00 Hours
Fac	tors 20 hrs/wk-shft	0 shifts			
7	50 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS AN	SA01S SSOC 371 Closure Project	Linear	0.00 Hours
Fac	tors 8 hrs/wk-shft	0 shifts		_	
7	50 STRAIGHT TIME BASE	P140 SAFEGUARDS AND OTHER SECUR	SA01S SSOC 371 Closure Project	Linear	160.00 Hours
Fac	tors 80 hrs/wk-shft	2 shifts	1 s126s/t110	_	
_ 7	50 STRAIGHT TIME BASE	P170 OTHER ADMINISTRATIVE & PROFE	SA01S SSOC 371 Closure Project	Linear	0.00 Hours
Fac	tors 20 hrs/wk-shft	0 shifts		T	
_ 7	50 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	592.00 Hours
Fac	tors 37 hrs/wk	2 shifts	8 st ops/shift	1	
_7	51 OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Proiect	Linear	16.00 Hours
Fac	tors 8 hrs/wk	2 shifts	1 ot frmn/shft	1	
_ 7	51 OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (KA40H 371 Wet Combustibles Steelworkers	Linear	96.00 Hours
Fac	tors 6 hrs/wk-shft	2 shifts	8 ot ops/shift	T	
Α	5C SUPPLIES	0000 NONE	SA01S SSOC 371 Closure Project	Linear	0.00 Dollars
Fac	tors 10000 \$/drum-shft	0 shifts			

Line Item 1AG351572C - FY02 Lab Sampling

BOE

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 20 operators and 2 Foreman for a total of 20,572 hours and 2057 respectively. This includes a week for start up, a week for shut down, and 208 days for operations. In addition, the estimate includes 400 hours for waste management support, 550 hours for maintenance, \$5,000 per drum for processing 104 waste drums, 2,000 hours for overtime, and 3000 hrs for 2 months for packaging support for 10 operators and 1 foreman.

Assumptions: It is assumed that operations can process 2 kg's per shift. A building availability factor of 75% was used in the calculations. Some of the material will require calcination, but will not prevent operations from processing 2 kg's day. It is also assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources

es		Cost Element			Skill		Department	Curve	Ouantity Units
	A5C	SUPPLIES	0000	NONE		SA01S	SSOC 371 Closure Project	Linear	67.500.00 Dollars
	Factors	45 samples/shift		1500	\$/sample				
	A5H	SUBCONTRACTED SRVS	0000	NONE		SA01S	SSOC 371 Closure Project	Linear	12.000.00 Dollars
	Enstana	120 bre/shift		100	¢/hr				

Line Item 1AG351572D - FY02 NMH&P Support

BOE

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 1/2 time for a crew of 4 NMH&P and one Forman for move support. This would be for 56 weeks in FY 01 and 02.

Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources

ces		Co	st Element		Skill		Department		Curve	Ouantity Units
	750 S	TRAIGHT	TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project		Linear	40.00 Hours
	Factors	20	hrs/wk-shft		2 shifts		1 NMH&P Frmn			
	750 S	TRAIGHT	TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KF10H	Matl Steward Steel Workers		Linear	0.00 Hours
	Factors	40	hrs/wk-shft		2 shifts		2 NMH&P On	0	5/31 MS Dbl	Rudget

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

WBS Filter Activity Filter

Project Baseline Devl 1AAG

Starts In FY

Line Item 1AG351582A - FY02 Shipping Support

1AW351572A

1AAG

BOE

WBS No:

Activity ID:

6.3 Shipping: Shipment of material to WIPP is the responsibility of RMRS. Support for the shipment of packaged fluorides has been included to provide information on the packaging process (configuration, packaging schedule, specific problems encountered during processing, paperwork issues, etc.). The

1/2 FTE for project support (a technical person in Wet group) for 14 weeks.

1 Forman and 3 operators for 14 weeks + 10% OT.

Assumptions: The shipment costs will not increase prior to initiating shipments.

Resources

es			Cost Element			Skill		Department	Curve	Quantity	Units
	750	STRAIGH	T TIME BASE	M010	FOREMEN	N / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	0.00	Hours
	Factors	40	hrs/wk-shft		0	shifts		1 st frmn/shft			
	750	STRAIGH	T TIME BASE	R010	CHEMICA	L SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	0.00	Hours
	Factors	40	hrs/wk-shft		0	shifts		3 st ops/shft			
	751	OVERTIM	IE BASE & PRE.	M010	FOREMEN	N / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	0.00	Hours
	Factors	4	hrs/wk-shft		0	shifts		1 st frmn/shft			
ĺ	751	OVERTIM	IE BASE & PRE.	R010	CHEMICA	L SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	0.00	Hours
	_		1 / 1 16			1.16					

Factors 4 hrs/wk-shft shifts st ops/shft

Line Item Mtce. - Maintenance Planning

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 50 hours per week of processing to cover 2 maintenance tasks a month at 100 hours per task.

Resources

es		Co	ost Element			Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT	TIME BASE	E070	MECHAN	ICAL ENGINEERS	SA01S	SSOC 371 Closure Proiect	Linear	13.80	Hours
	Factors	60	hours/mo		0.23	mo/wk					
	750	STRAIGHT	TIME BASE	E080	NUCLEAF	R (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	13.80	Hours
غ	Factors	60	hours/mo		0.23	mo/wk					
	A57	LATA		P070	COST ES	TIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	993.60	Dollars
4	Factors	1	Planner		60	hours/mo		_0.23mo/wk	. 72 \$/hour		
L	A58	ASI		0000	NONE		SA01S	SSOC 371 Closure Proiect	Linear	54.00	Dollars

Factors 12 Dollars/Day day/week 4.5

Line Item SYS - Contingency And Escalation

BOE

		ce

es	Cost Element		Skill		Department	Curve	Ouantity Units
С	ON CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	121.097.00 Dollars
Fac	tors 121097 Dollars						
E	SC ESCALATION	0000	NONE	ZDEPT	No Department	Linear	54.272.09 Dollars

54272.1 Dollars Factors

Activity ID: 1AWA00032P Description: Wet Comb./Sludges Administrative Preps.

Cost Risk	2	Schedule Risk	2

Line Item	Description	Quantity	Units BOE	Labor	Labor Hours		Materials/ Sub	0 2	Total Prime	Burden Cost	Total Cost
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
032a	Process Control Plan	0.18 ea	a HC	0	0	0	31.453	0	31.453	0	31.453
032b	Procedures Modifications	0.18 ea	ach HC	0	0	0	2.772	0	2.772	0	2.772
032c	NMSL Modifications	0.18 ea	ach HC	600	108	4.691	0	0	4.691	2.289	6.980
032d	Job Hazard Analysis	0.18 ea	ach HC	450	81	3.017	0	0	3.017	1.472	4.489
032e	ALARA Review	0.18 ea	ach HC	300	54	1.489	0	0	1.489	727	2.216
032f	V&V Procedures	0.18 ea	ach HC	0	0	0	2.772	0	2.772	0	2.772
032a	Mockup Training	0.18 ea	ach HC	440	79	1.667	0	0	1.667	814	2.481
032h	Acceptable Knowledge Submittal	0.18 ea	ach HC	80	14	494	0	0	494	241	736
	To	otal for Activity	1AWA00032P:		338	11.359	36.997	0	48.356	5.543	53.899

Line Item 032a - Process Control Plan

BOE

Historical Data Source - FY99 Wet Combustibles Process Control Plan Item Desc - Process Control Plan

Breakdown of Historical Data:

WBS No: Activity ID:

1AAG
1AWA00032P

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

| Project | WBS Filter | 1AAG |

Item - FY99 Wet Combustibles Process Control Plan Units - Each Unit Cost - \$174K Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a

Resources

ces		Cost Element		Skill		Department	Curve	Ouantity Units
	A52	TENERA	0000	NONE	SA01S	SSOC 371 Closure Proiect	Linear	174.085.70 Dollars

 Factors
 1.02283
 -- FY00 Escalation - 2
 Engineers
 1850
 Hrs
 92
 \$/Hr

 0.5
 Half-time
 92
 \$/Hr
 \$/Hr

Line Item 032b - Procedures Modifications

BOE

Historical Data Source - FY99 Fluorides Procedure Modifications
Item Desc - Procedure Modifications
Breakdown of Historical Data:
Item - FY99 Fluorides Procedure Modifications
Units - Each

Unit Cost - \$15K Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a

Basis for adjustment - n/a

Resources

es		Cost Element		Skill		Department	Curve	Quantity Units
	A57	LATA	0000 NONE		SA01S	SSOC 371 Closure Project	Linear	14,319.62 Dollars
_	Factors	1 Procedure Writer	200	hours		1.02283 FY00 Escalation	70 \$/hour	
	A58	ASI	0000 NONE		K777C	Construction	Linear	1.022.83 Dollars
	Factors	1.02283 FY00 Escalation	50	\$/hour		20 hours		

Line Item 032c - NMSL Modifications

BOE

Historical Data Source - FY99 Fluorides NMSL Modifications
Item Desc - NMSL Modifications
Breakdown of Historical Data:
Item - FY99 Fluorides NMSL Modifications
Units - Each
Unit Cost - \$30K
Unit Cost Adjustment factor - 1.00
Revised Unit Cost - n/a

Resources

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Proiect	Linear	600.00) Hours

Factors 1 Crit. Engineer 4 mos. 150 hour/month

Line Item 032d - Job Hazard Analysis

BOE

Historical Data Source - FY99 Fluorides Job Hazard Analysis Item Desc - Job Hazard Analysis
Breakdown of Historical Data:
Item - FY99 Fluorides Job Hazard Analysis
Units - Each
Unit Cost - \$23K
Unit Cost Adjustment factor - 1.00
Revised Unit Cost - n/a
Basis for adjustment - n/a

Resources

es		Cost Element		Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	150.00 Hours
	Factors	1month		150 hrs/month				
	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	150.00 Hours
	Factors	1month		150 hrs/month				
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	SA01S	SSOC 371 Closure Proiect	Linear	150.00 Hours
	Factors	1 month		150 hrs/month				

Starts In FY *

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Baseline Devl Project WBS Filter 1AAG Activity Filter

Starts In FY *

Line Item 032e - ALARA Review

1AAG

1AWA00032P

BOE

WBS No:

Activity ID:

Historical Data Source - FY99 Fluorides ALARA Review Item Desc - ALARA Review Breakdown of Historical Data: Item - FY99 Fluorides ALARA Review Units - Each Unit Cost - \$15K Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a

Resources

s		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	150.00 Hours
I	actors	1 month		150 hrs/month				
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	150.00 Hours
F	actors	1 month		150 hrs/month				

Line Item 032f - V&V Procedures

BOE

Historical Data Source - FY99 Fluorides V&V Procedures Item Desc - V&V Procedures Breakdown of Historical Data: Item - FY99 Fluorides V&V Procedures Units - Each Unit Cost - \$15K Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a

Resources

es	Cost Element		Skill			Department	Curve	Quantity	Units
	A57	LATA	0000 NONE		SA01S	SSOC 371 Closure Project	Linear	14.319.62	Dollars
	Factors	1.02283 FY00 Escalation	1	Procedure Writer		200 hours	70 \$/hour		
	A58	ASI	0000 NONE		K777C	Construction	Linear	1.022.83	Dollars
	Factors	1.02283 FY00 Escalation	50	\$/hour		20 hours			

Line Item 032g - Mockup Training

BOE

Historical Data Source - FY99 Wet Combustibles Mockup Training Item Desc - Mockup Training Breakdown of Historical Data: Item - FY99 Wet Combustibles Mockup Training Units - Each Unit Cost - \$220K Unit Cost Adjustment factor - 0.10 Revised Unit Cost - \$22K

Basis for adjustment - Mockup training will be very brief because the crew is already trained in Fluorides procedures. A short period of training is necessary for sludge-specific issues.

Resources

es			Cost Element			Skill			Department	Curve	Ouantity	Units
	750	STRAIGH	IT TIME BASE	M010	FOREMEN	I / TEAM LEADS / GROUP	SA01S	SSOC 3	71 Closure Proiect	Linear	40.00	Hours
	Factors	1	Foreman		1	week40		40	hours/week			
	750	STRAIGH	IT TIME BASE	R010	CHEMICAL	SYSTEMS OPERATOR (KA40H	371 Wet	Combustibles Steelworkers	Linear	400.00	Hours
	Factors	10	Process Specialists		1	week		40	hours/week			

Line Item 032h - Acceptable Knowledge Submittal

Cost Element

BOE

Resources

Historical Data Source - FY99 Wet Combustibles Item Desc - Acceptable Knowledge Breakdown of Historical Data: Item - FY99 Wet Combustibles Acceptable Knowledge Units - Each Unit Cost - \$4K Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a

Skill

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Ouantity

WBS No: 1AAG
Rocky Flats Closure Project
Activity ID: 1AWA00032P
Rocky Flats Closure Project
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1AAG
1AAG
1AAG
1AAG

E130 OTHER ENGINEERS SA01S SSOC 371 Closure Project Linear 80.00 Hours

Factors 1 Engineer 2 weeks 40 hours/week

Activity ID: 1AWA007251

Description: Train Wet Combustibles Addt'l. Ops. Personnel

Cost Risk 1 Schedule Risk 1

Line Item

Description: Train Wet Combustibles Addt'l. Ops. Personnel

Quantity Units BOE Labor Labor Hours Labor Cost Materials/Sub Contingency Total Prime Bu

Burden Cost Total Cost Type Hours/Unit Total & Escalation Total Cost Cost Train Ops Personnel 0.08 each 18.200 1.447 29.385 0 29.385 14.340 43.726 29.385 29.385 Total for Activity 1AWA007251: 1.447 0 0 14.340 43.726

Line Item 1 - Train Ops Personnel

BOE

Historical Data Source - FY99 Operator Training
Item Desc - Operator Initial Training
Breakdown of Historical Data:
Item - Operator Training
Units - 10 Operators, 1 Supervisor, 2 RCTs
Unit Cost - 13 FTEs for Six Months
Unit Cost Adjustment factor - 1.00

Revised Unit Cost - n/a Basis for adjustment - n/a

750 STRAIGHT TIME BASE

Resources

rces	Cost Element		Skill			Department	Curve	Quantity	Units
ļ	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (KA40H	371 Wet Combustibles Steelworkers	Linear	18.200.00	Hours

Factors 10 PS 1820 hrs/vr

Report Totals:

•							
	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
	Total	Total	Cost	& Escalation	Cost		
	315.782	7.615.229	8.292.982	1.384.940	17.293.151	3.339.215	20.632.366

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